

**CRITTALL
METAL
WINDOWS**

CRITTALL
CASEMENT WINDOW CO.
DETROIT, MICHIGAN.

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UNIVERSAL CASEMENTS

Of Steel and Bronze

Custom built for the finest work

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Heavy standard windows for the best type of work

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CRITTALL METAL WINDOWS

of Solid Steel and Bronze

CRITTALL CASEMENT WINDOW COMPANY

MAIN OFFICE AND FACTORY
DETROIT, MICHIGAN

ATLANTA OFFICE..... 1520 Healey Building
CHICAGO OFFICE..... 333 N. Michigan Avenue
CLEVELAND OFFICE..... 1526 Keith Building
DALLAS OFFICE..... 807 Thomas Building
LOS ANGELES OFFICE..... 504 Union Insurance Building
MT. VERNON, N.Y. OFFICE..... 341 North High Street
NEW YORK OFFICE..... 101 Park Avenue
WASHINGTON, D.C. OFFICE..... 309 Thirteenth St., N.W.

REPRESENTATIVES IN ALL PRINCIPAL CITIES. WAREHOUSES
AT CENTRAL DISTRIBUTING POINTS



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ENGLAND

The Crittall Manufacturing Co., Ltd., 210 High Holborn, London, W. C. 1. Factories at Braintree, Witham, Maldon, and Silver End, Essex.

GERMANY

Fenestra-Crittall, A. G., Rather-Strasse 243-61 Postfach 10031, Dusseldorf-Derendorf. Factory at Dusseldorf.

AUSTRALIA

The Crittall Manufacturing Co. Pty. Ltd., 668 Bourke St., Melbourne. Factory at Melbourne.

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The Crittall Manufacturing Co., Ltd., 74 Szechuen Rd., Shanghai. Branches at Hong-Kong, Tientsin, and Hankow.

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The Crittall Manufacturing Co., Ltd., 918 Currimbhoy Rd., Bombay. Branches at Calcutta, Rangoon, Madras, and Karachi.

NEW ZEALAND

The Crittall Manufacturing Co., Ltd., Auckland.

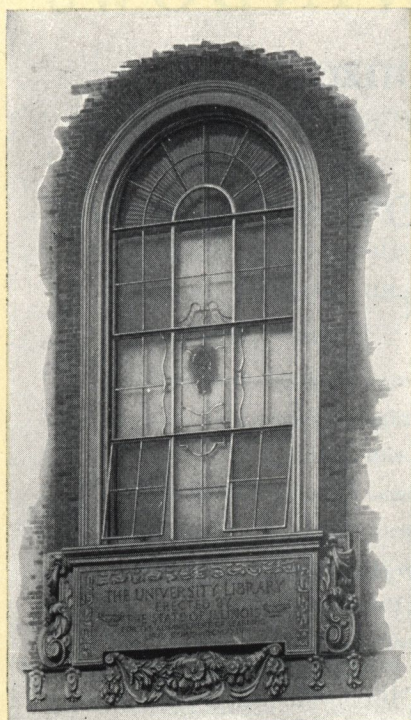
SOUTH AFRICA

The Crittall Manufacturing Co., Ltd., 13 Loveday St., Johannesburg. Branches at Capetown, Durban, and Port Elizabeth.

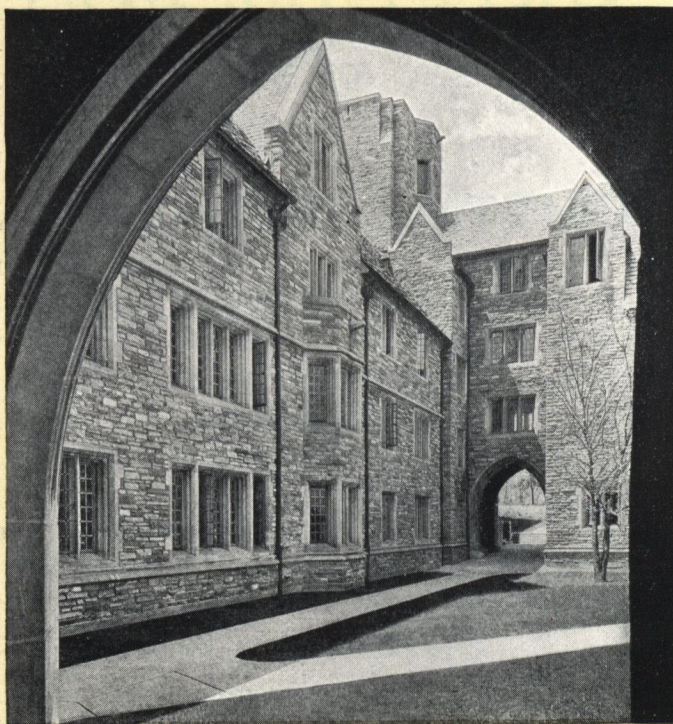
CANADA

The Canadian Metal Windows and Steel Products Company, 160 River Street, Toronto, Ontario.

UNIVERSAL CASEMENTS



*Library, University of Illinois,
Urbana, Illinois
Charles A. Platt, Architect*

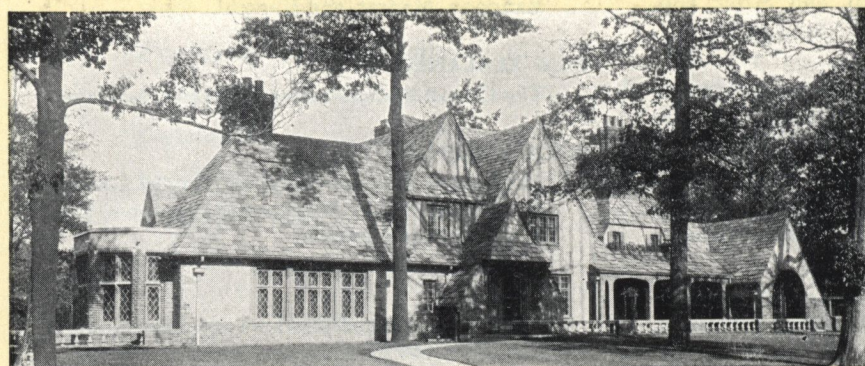


*Concordia Seminary, St. Louis, Missouri
Day & Klauder, Architects*

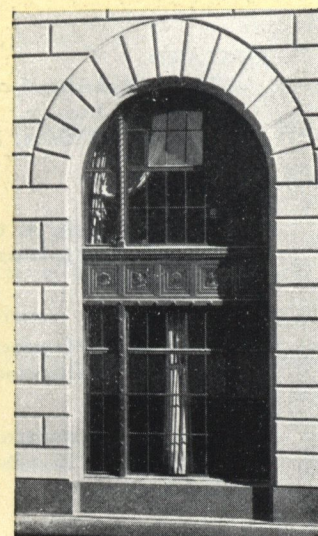


*Chapel, University of Chicago,
Chicago, Illinois
Bertram G. Goodbue Associates, Architects*

*Canal Bank & Trust Company,
New Orleans, Louisiana
Emile Weil, Inc., Architects*



*Residence of John H. Kunsy, Esq., Detroit, Michigan
C. Howard Crane, Architect*



UNIVERSAL CASEMENTS

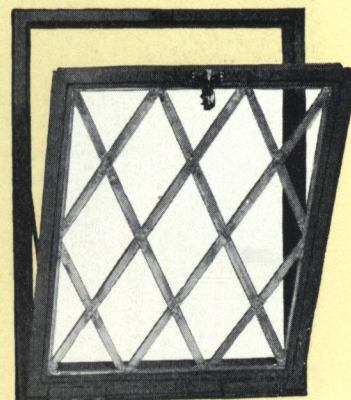
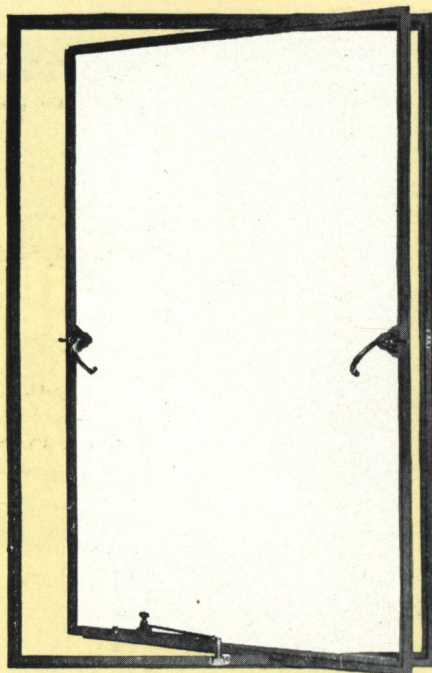
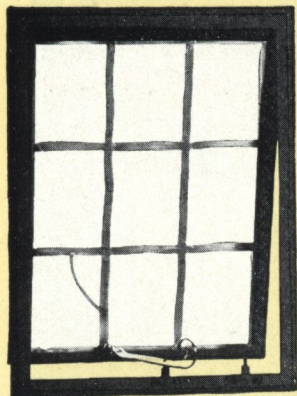


Stone, steel, lead and glass masterfully
combined to make a beautiful opening.

*Theological Seminary,
Chicago, Illinois*

Herbert Hugh Riddle, Architect

UNIVERSAL CASEMENTS



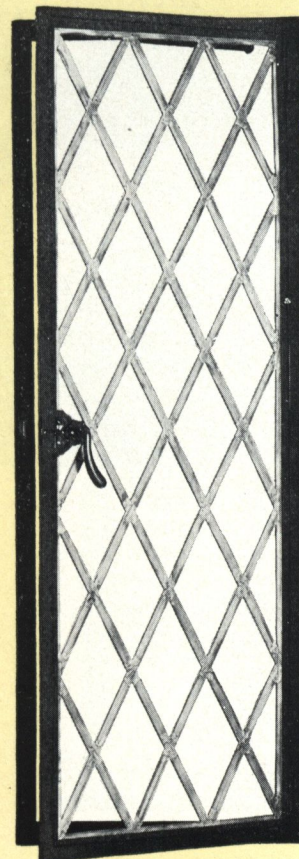
Vertically Pivoted Casements, when pivoted in the center, take hardware similar to side hinged out opening casements. This is also true when pivoted off center with the major portion to swing out. When the major portion swings in, pivoted casements take hardware similar to side hinged in opening casements.

Top Hinged Out Opening Casements are fitted with solid bronze peg stay No. 107 for hand operation.

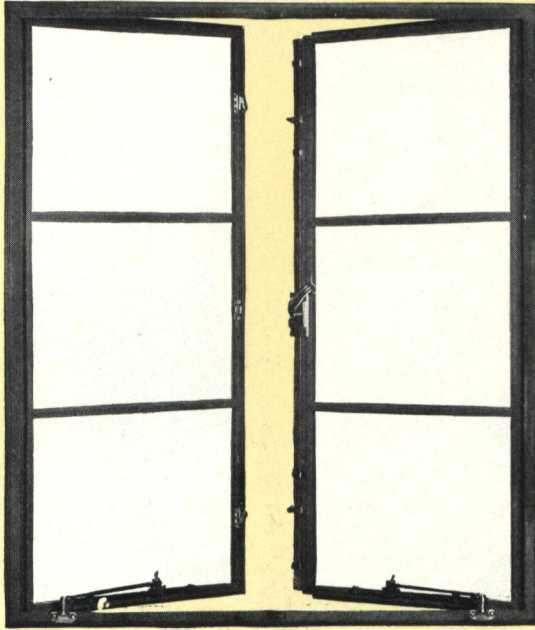
Bottom Hinged In Opening Casements are fitted with spring catch 2AS for pole control. Spring catch 3AS is applied only to small units for cord control. Units under nine square feet in area are fitted with concealed side arms. Larger units take two friction stays.

Side Hinged Out Opening Casement handles may be either No. 205 or No. 206 on choice of plates 225 or 229. Handle No. 211 is also optional but is usually reserved for very large casements. Stays may be sliding stay No. 108, friction stay or peg stay No. 107.

Side Hinged In Opening Casements have the same optional handles as above. The choice of stay is limited to friction stays or peg stay No. 107.



UNIVERSAL CASEMENTS



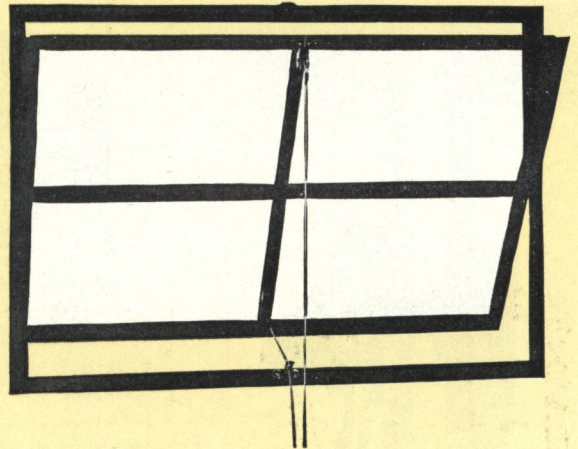
Double Casements Out Opening are fitted with bronze cremorne bolts and No. 108 stays. Friction stays may be applied at the head or peg stays No. 107 at the sill without extra charge.

‘ ‘ ‘

The standard handle for a bronze cremorne bolt is ordinarily handle No. 310 but handle No. 306 may be used without extra when desired. When double casements are used in the same room with side hinged casements, it is customary to use handle No. 206 on the side hinged casements and handle No. 306 on the double casements so that they all conform.

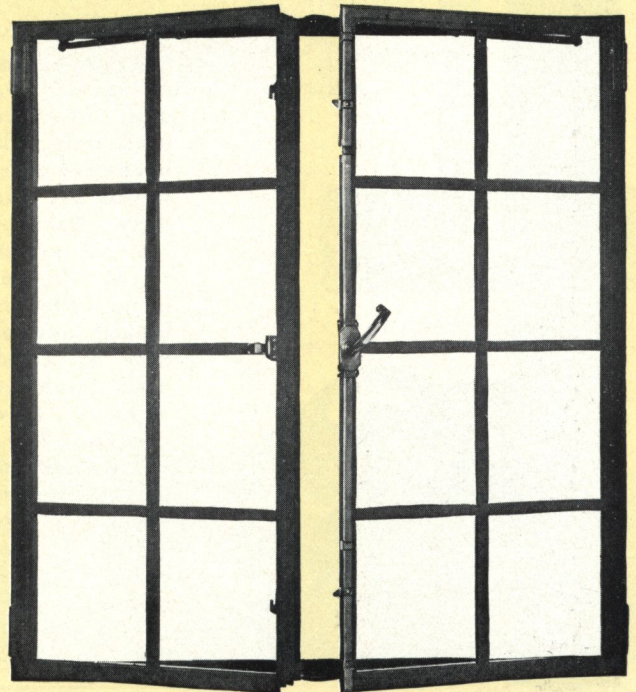
‘ ‘ ‘

All hardware is solid cast bronze of government mixture, toned a dark coinage color without the use of chemicals or plating. Friction stays are Rixson stays of brass, toned to match the other hardware.



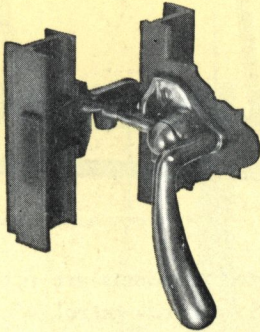
Horizontally pivoted transoms are fitted with spring catch 2 AS for cord control. When pole control is desired, two friction stays must be used to hold the casement in the desired position. There is a slight extra charge for these stays on casements under 9 square feet in area.

Double Casements In Opening are fitted with bronze cremorne bolts and friction stays. They may have bronze peg stays No. 107 applied at the sill on the outside without extra charge.

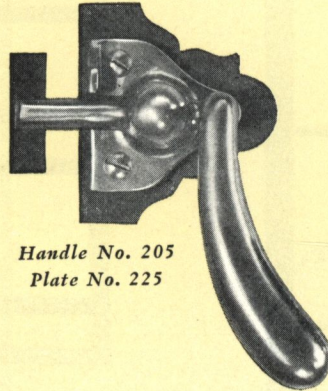


UNIVERSAL CASEMENTS

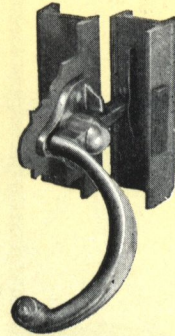
STANDARD HARDWARE



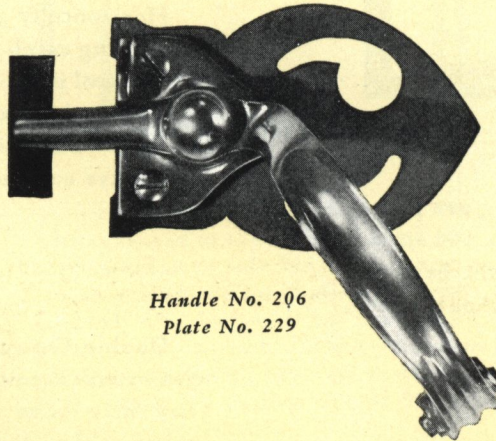
3-Point Strike Plate



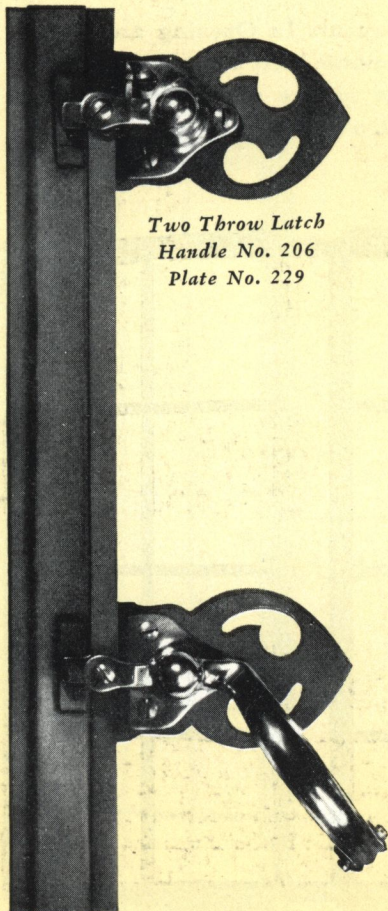
*Handle No. 205
Plate No. 225*



Night Latch

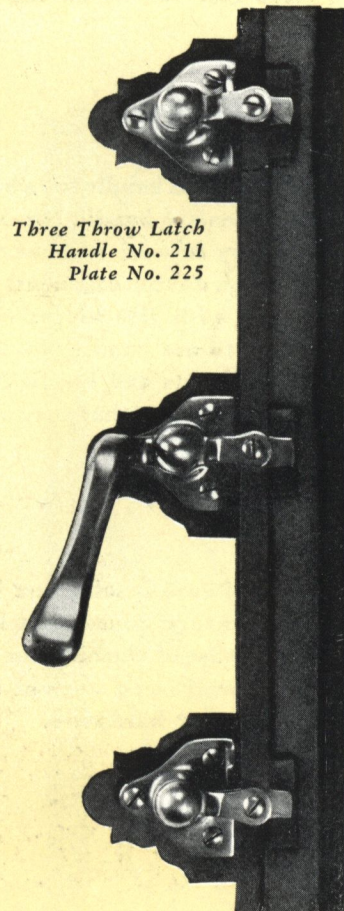


*Handle No. 206
Plate No. 229*



*Two Throw Latch
Handle No. 206
Plate No. 229*

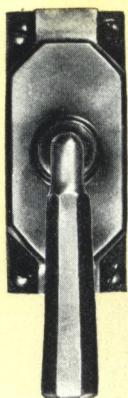
Handles No. 205, 206 and 211 are standard and interchangeable without change in cost. In general, handle 211 is used only where three throw hardware is required as it is designed for exceptionally heavy duty. Back plates No. 225 and No. 229 are steel plates welded to the casement sections. There is no difference in cost. Side hinged out opening casements may be fitted with concealed night latch shown on the upper right at a very small extra charge. The projecting night latch shown at the upper left may be used on side hinged out opening casements at a slightly increased cost where a still greater degree of night ventilation is desired without rattles.



*Three Throw Latch
Handle No. 211
Plate No. 225*

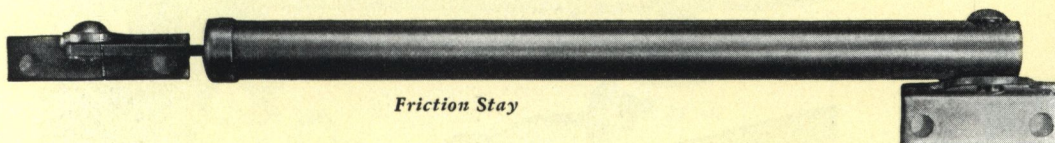
UNIVERSAL CASEMENTS

STANDARD HARDWARE

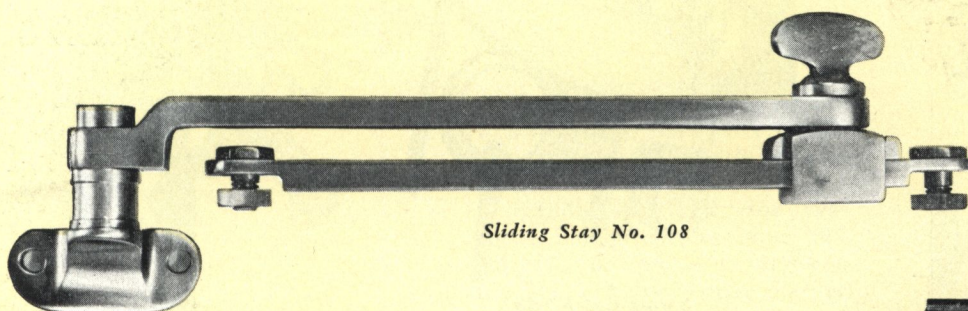


*Handle No. 310
for
Cremorne Bolt*

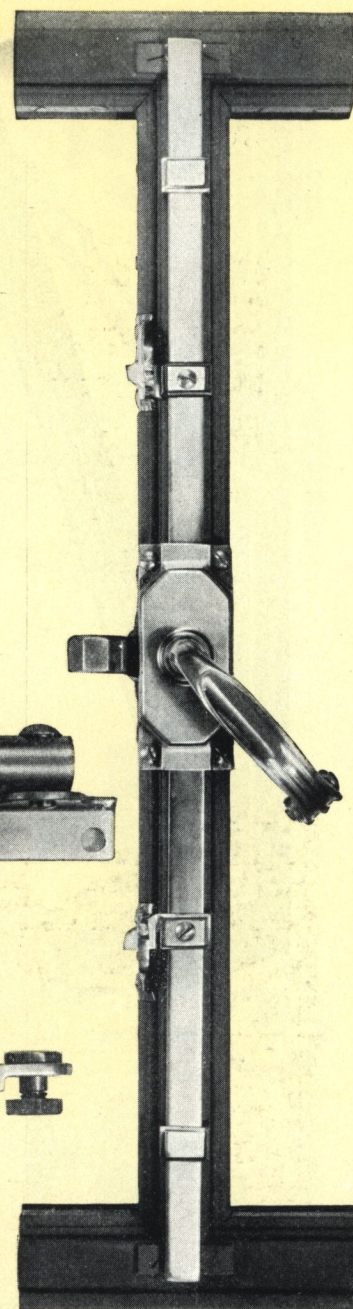
Standard solid bronze cremorne bolt with handle No. 306 is illustrated at the right. Handle 310, at the left, is optional. Friction stays are brass, toned to match the other hardware. They are applied at the head of the casements where they are inconspicuous. Solid bronze sliding stay No. 108 is standard for side hinged out opening casements while the friction stay is standard for side hinged in opening casements. The friction stay is optional also on out opening casements in place of stay No. 108. Peg stay No. 107 is chiefly used in residential work where it may be applied on either side hinged out or side hinged in opening casements.



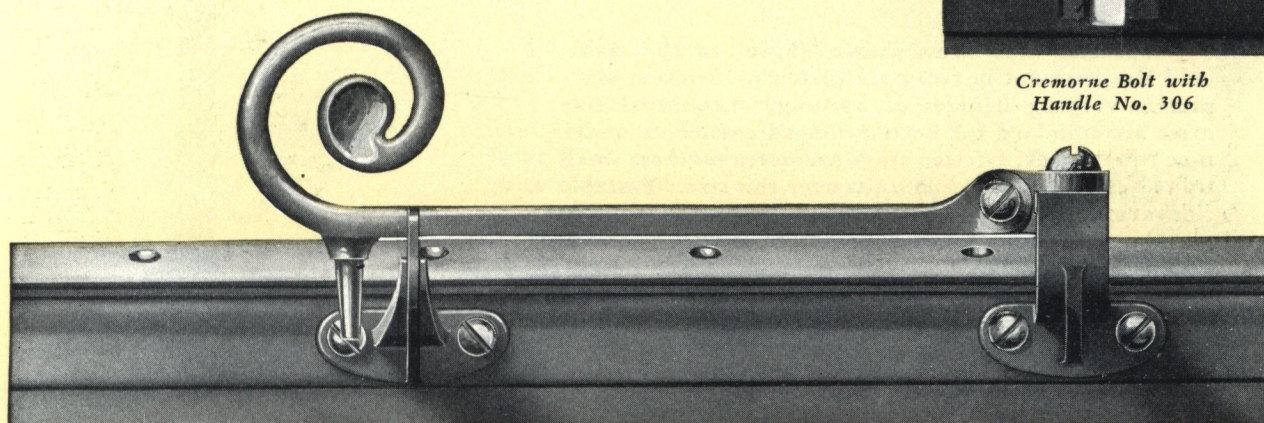
Friction Stay



Sliding Stay No. 108



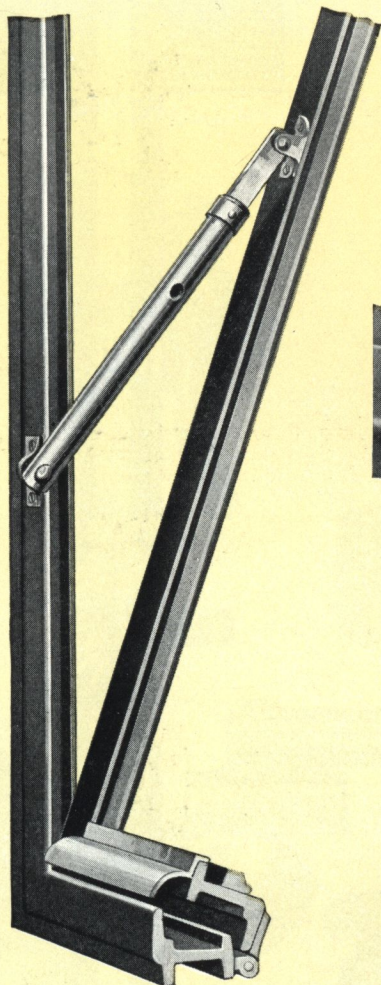
*Cremorne Bolt with
Handle No. 306*



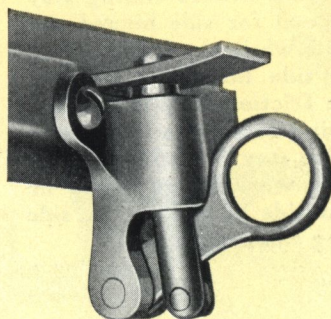
Peg Stay No. 107

UNIVERSAL CASEMENTS

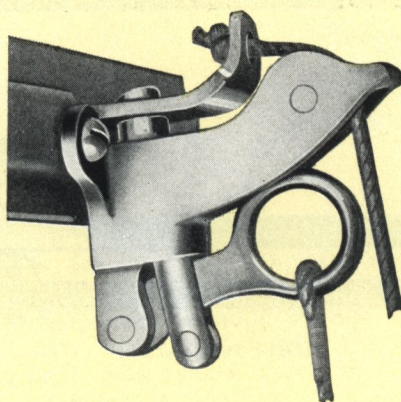
STANDARD HARDWARE



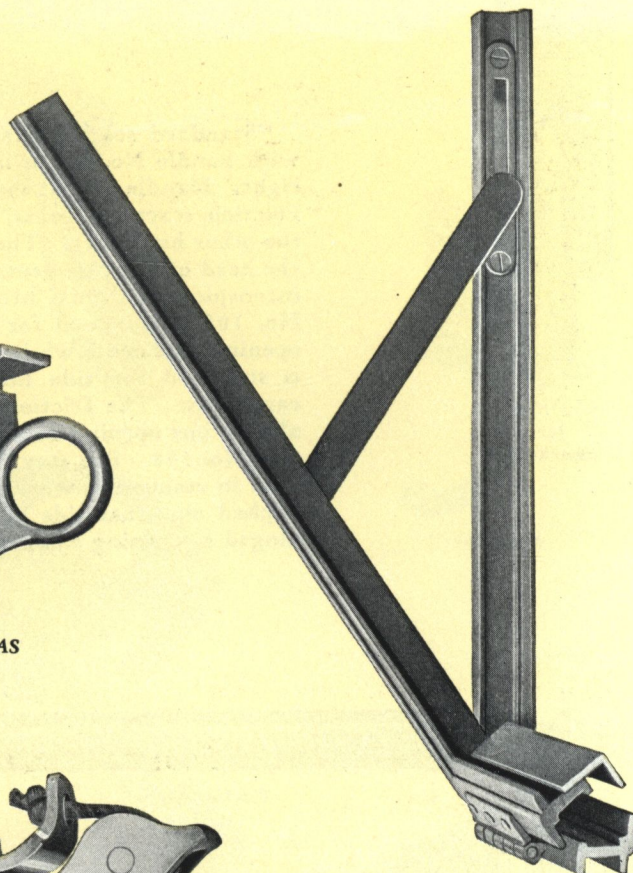
Friction Stay



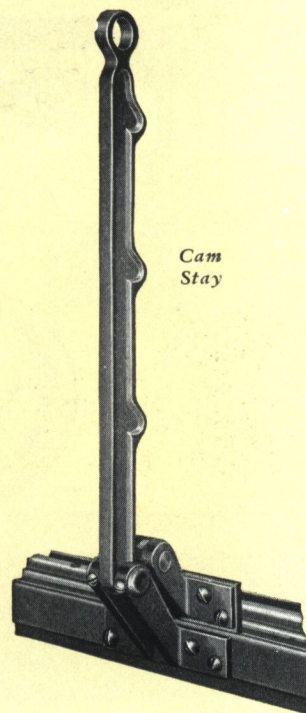
Spring Catch 2AS



Spring Catch 3AS



Concealed Side Arm



Cam Stay

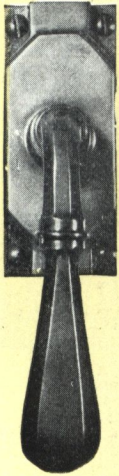
Concealed side arms shown above, to the right, hold the casement in full open position. Friction stays permit varying degrees of opening. Concealed side arms are standard for bottom hinged casements under nine square feet; friction stays are extra on these small units but are standard on units over this size. Passable side arms to permit the transom to drop down for cleaning can be furnished at no extra cost.

For uses of spring catches see pages 4 and 5.

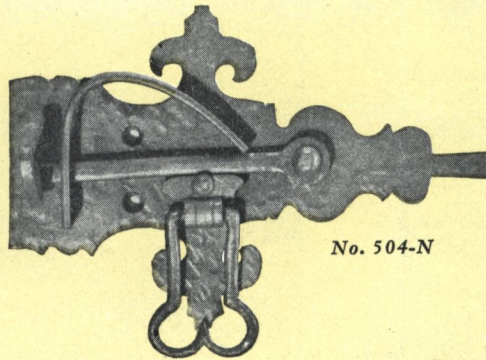
The solid bronze cam stay, illustrated at the right, is used for pole operation on top hinged transoms when no screens are used. It is applied only as an extra.

UNIVERSAL CASEMENTS

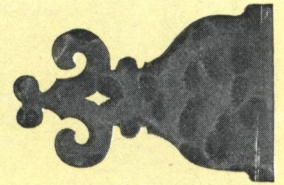
SPECIAL HARDWARE



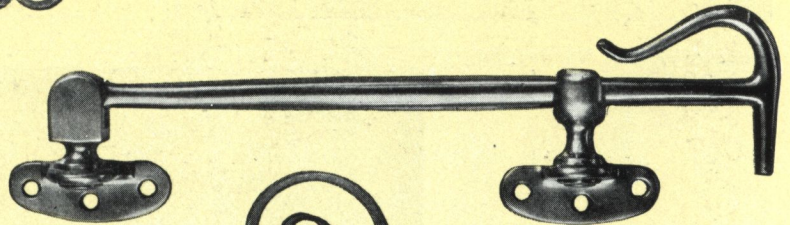
No. 302



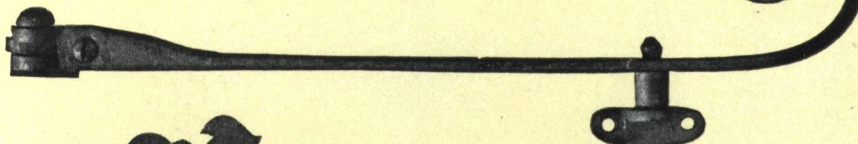
No. 504-N



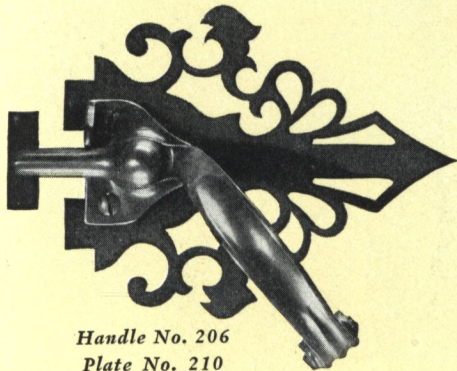
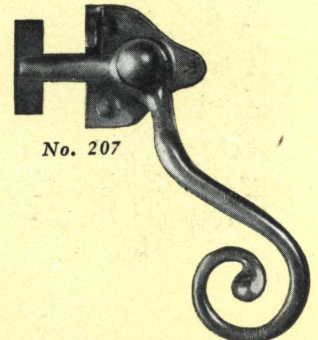
No. 219



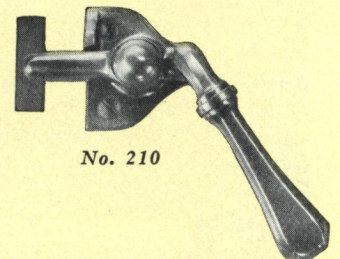
No. 112



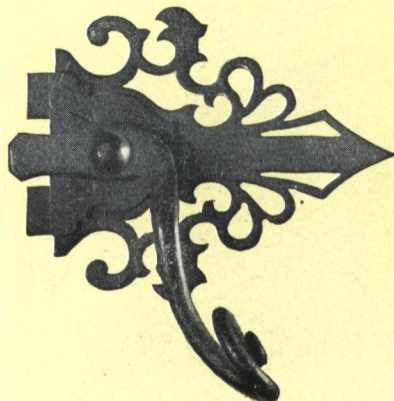
No. 107-G

Handle No. 206
Plate No. 210

No. 207



No. 210

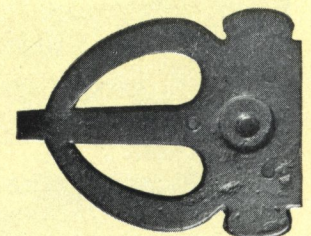
Handle No. 506-A
Plate No. 210

For particular effects, we can furnish special hardware to our own or to the architect's designs.

Handle No. 302, for cre-morne bolts, handles Nos. 207 and 210, for casements, and peg stay No. 112 are bronze fittings the extra for which is not excessive.

Latch and plate No. 504-N, plates Nos. 219, 221 and peg stay No. 107-G are hand wrought iron. These, being the finest kind of hand work, are quite expensive.

Handle No. 506-A and plate No. 210 are further examples of hand work but plate No. 210 is more economical when made as a bronze casting, painted black, on which may be mounted any standard handle such as No. 206.



No. 221

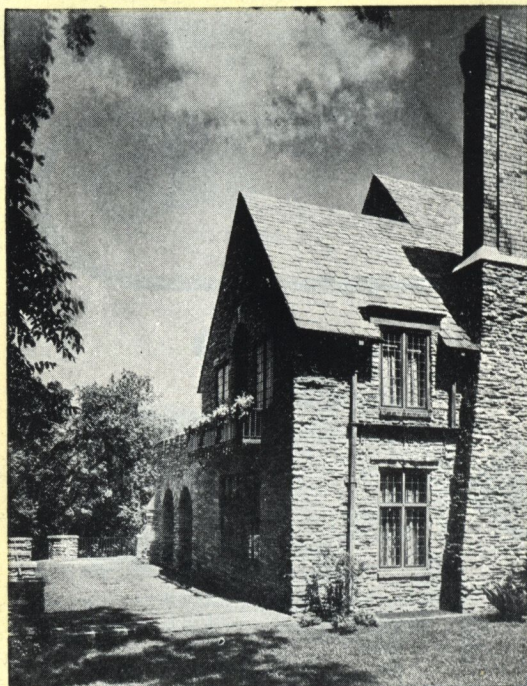
NORMAN CASEMENTS



*Residence of E. Z. Nutting, Esq.
Palm Beach, Florida
Julius Jacobs, Architect*



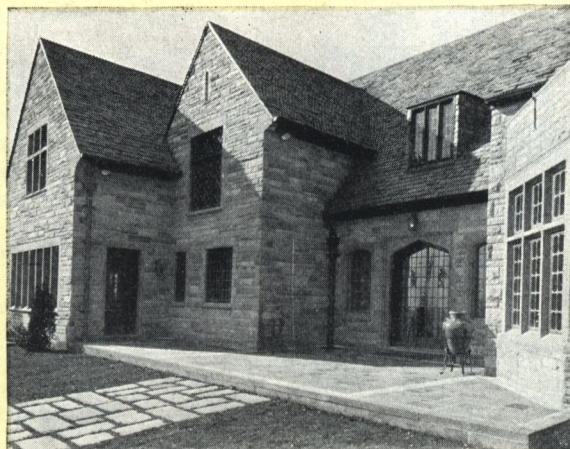
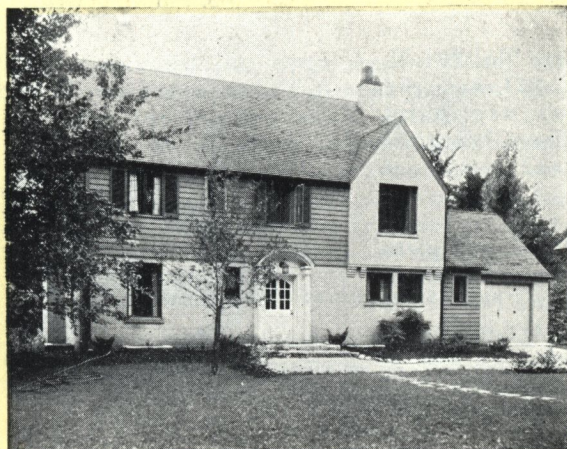
*Office Building
Montclair, New Jersey
Holmes & Von Schmid, Architects*



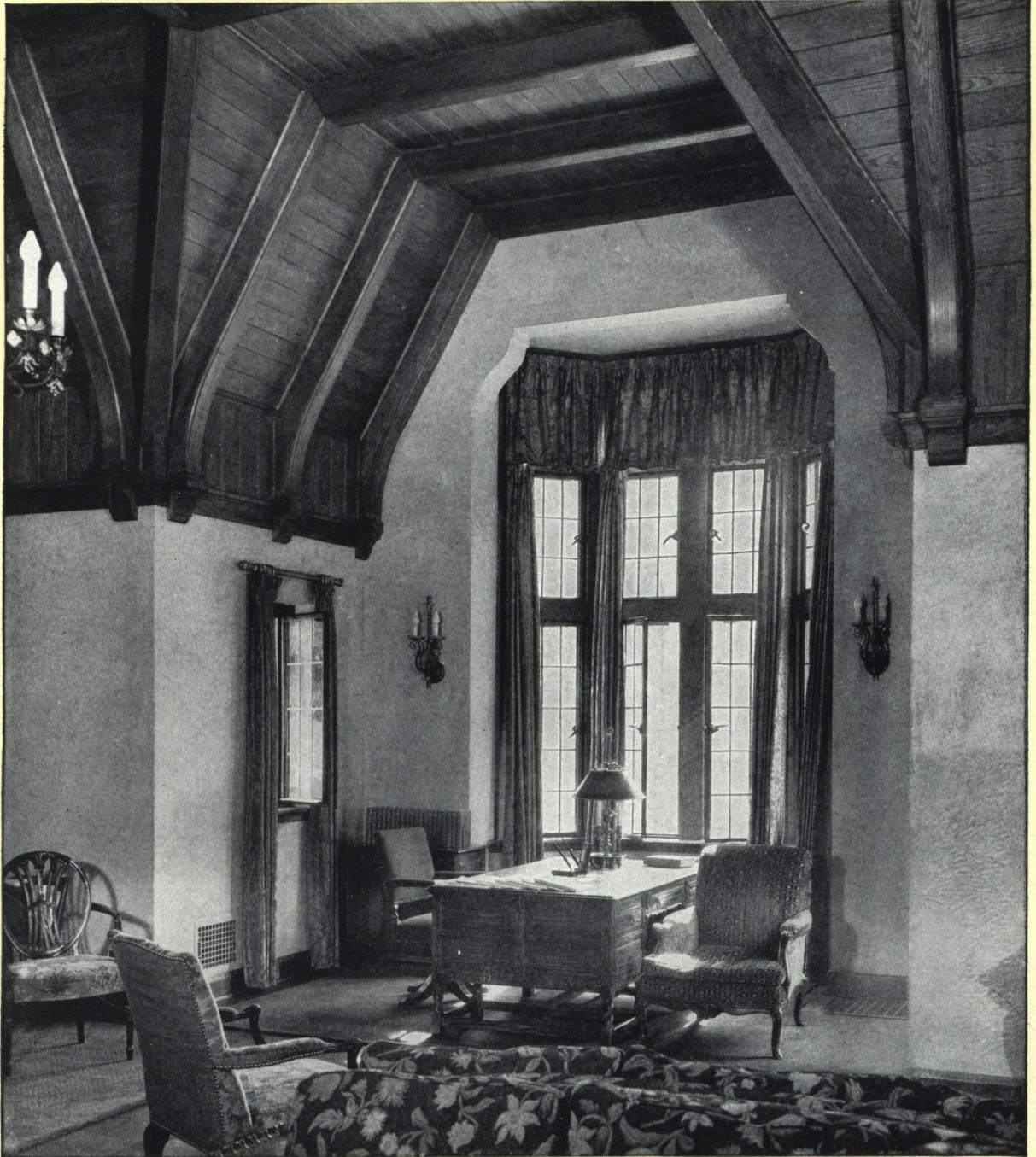
*Residence of Merwin Armstrong, Esq.
Hinsdale, Illinois
R. S. Walcott, Architect*

*Residence of E. W. Goebel, Esq.
Kansas City, Missouri
E. W. Tanner, Architect*

*Residence of C. L. Ayres, Esq.
Grosse Pointe, Michigan
Beckett & Akitt, Architects*



NORMAN CASEMENTS

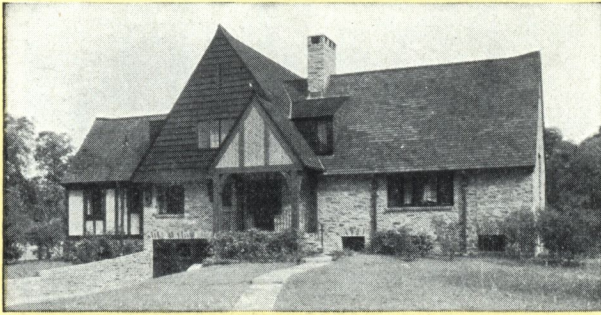


An effective illustration of the perfect utility and
exquisite draping of inward opening casements.

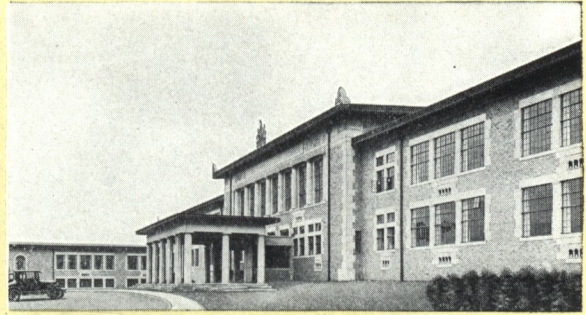
*Organ Building, Estate of J. K. Lilly, Esq.,
Indianapolis, Indiana*

Robert Frost Daggett, Architect

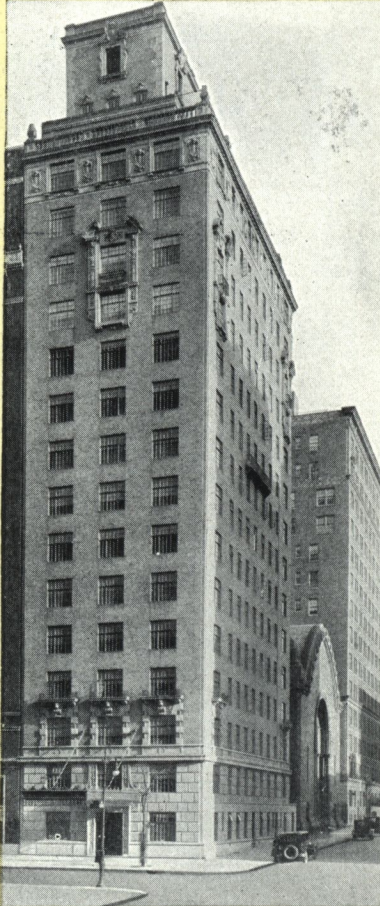
STANWIN CASEMENTS



*House for V. Green Company
Greenhaven, New York
R. J. Miller, Architect*



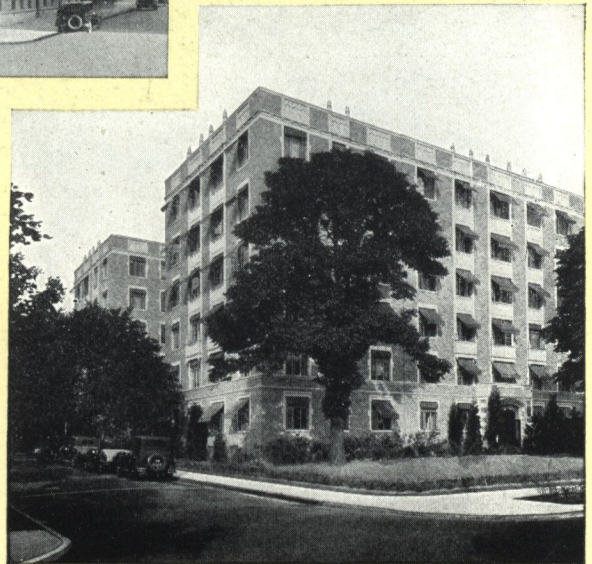
*John Harris High School
Harrisburg, Pennsylvania
Lappley & Hornbostel,
Architects*



*580 West End Avenue,
New York, New York
Emory Roth, Architect*

*Group Houses, Washington, D. C.
Baer & Scholz, Architects*

*Riverview Manor, Harrisburg, Pa.
C. J. Lappley, Architect*



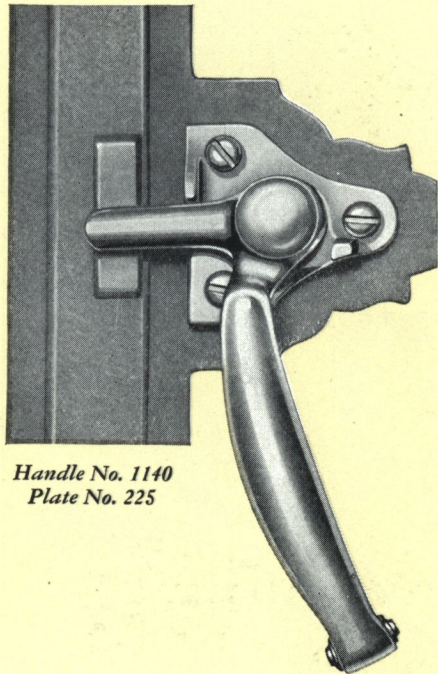
STANWIN CASEMENTS



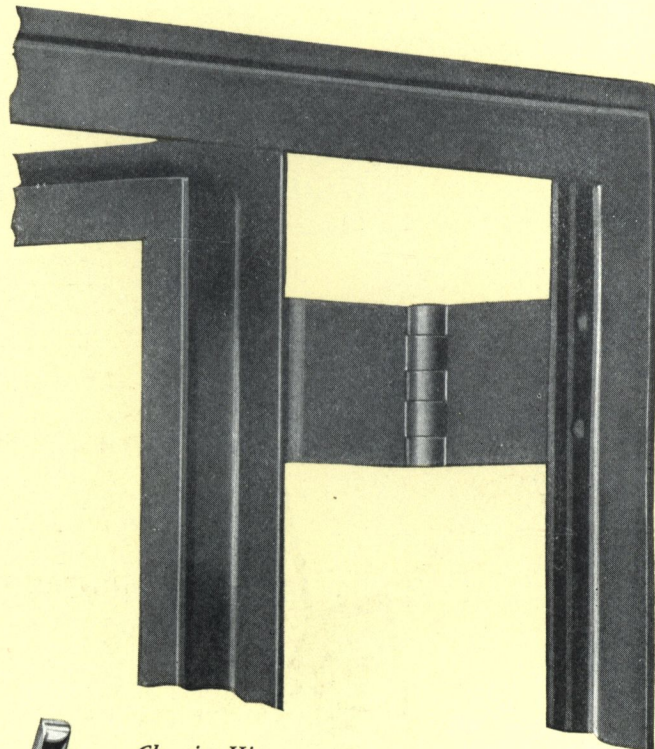
Residence of Edgar Bamburger, Esq.,
West Orange, New Jersey
Clifford C. Wendebach, Architect

NORMAN CASEMENTS

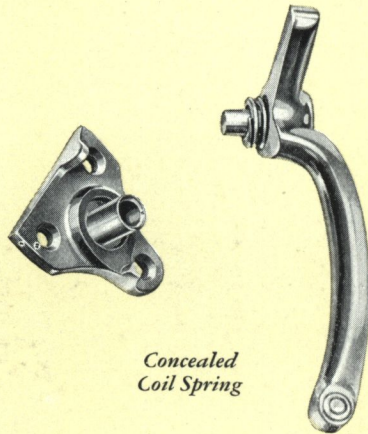
STANDARD HARDWARE



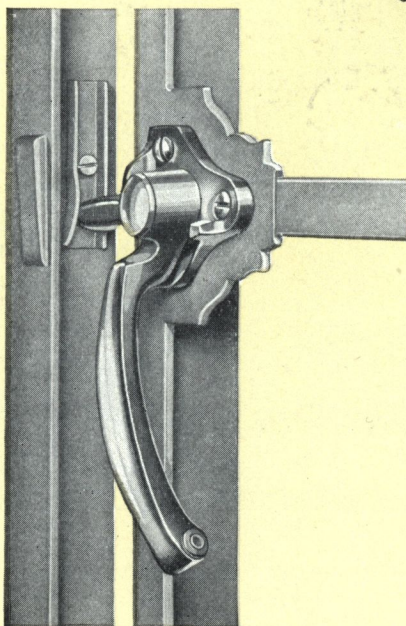
*Handle No. 1140
Plate No. 225*



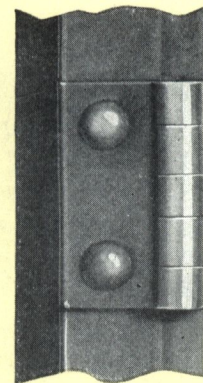
Cleaning Hinge



*Concealed
Coil Spring*



Night Latch



Close Hinge

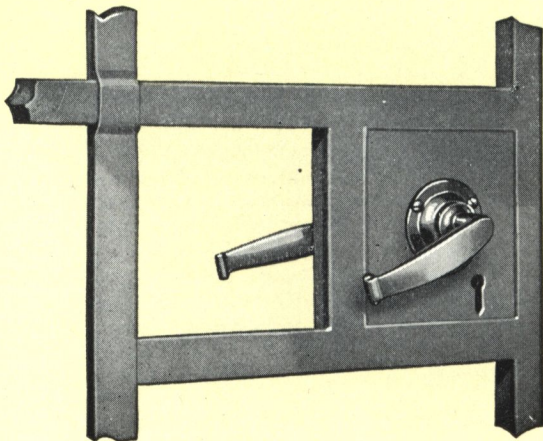
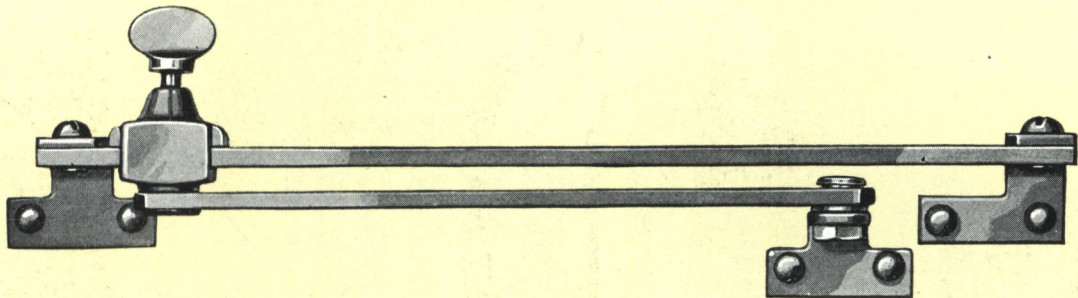
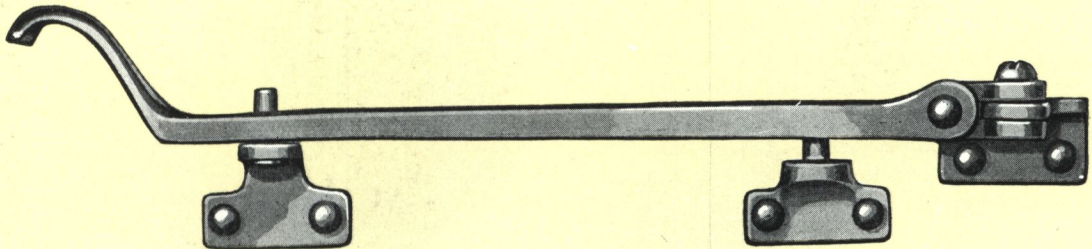
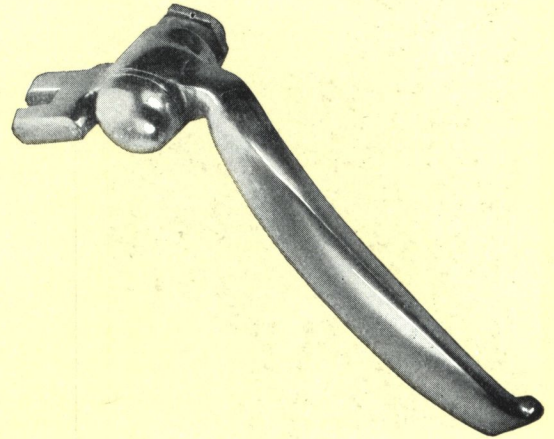
All casements are fitted with substantial bronze hinges with hardened steel pins. Standard hinges on outward opening and inward opening casements are close hinges. Where specified, outward opening casements may have projecting hinges for cleaning as illustrated at the upper right. Steel handle plate No. 225 with solid bronze handle No. 1140 illustrated above is standard. Typical of the care given to details is the concealed coiled spring illustrated at the left which takes up all wear and prevents rattles. All outward opening casements have the concealed night latch illustrated at the left for small amounts of ventilation. Friction stays are applied at the heads of all Norman Casements, see illustration on Page 7.

STANWIN CASEMENTS

STANDARD HARDWARE

HANDLES: All handles are drop forged bronze, fitted with a slotted nose which permits a small amount of ventilation without draft.

TRANSOM STAYS: Top hung transoms are operated with drop forged bronze peg stays.



SILL ADJUSTERS: Sliding stays have solid bronze top and bottom bars, bronze friction box and bronze thumb screws. This stay is standard equipment on all Stanwin Casements.

LOCKS: Doors are fitted with bronze handles and mortise latch locks. They operate from both sides.

UNIVERSAL CASEMENTS



The Riverside Church, New York City
Henry C. Pelton and Allen & Collens
Associated Architects

UNIVERSAL CASEMENTS

GUARANTEE

The same guarantee as given on page 39 of this catalogue for Norman Casements applies equally to Crittall Universal Casements

STANDARDS OF MATERIALS AND WORKMANSHIP

STEEL: All steel used is copper bearing steel, containing not less than 0.15% nor more than 0.30% copper to resist rust. The copper content also gives a better surface, with greater affinity for paint. Medium casement sections shall weigh not less than 3.25 lbs. per lineal foot, this weight to include the swinging leaf and the outer frame, but does not include glass stop or any subframe. The heavy section shall weigh not less than 4.54 lbs. per lineal foot.

HARDWARE: Standard hardware is solid cast bronze of government standard mixture, including handles, cremorne bolts, sliding stays, and peg stays. Friction stays are Rixson stays of brass, toned to match other hardware. All bronze hardware is toned a beautiful dark coinage color without the use of plating or chemicals. Concealed in all handles is a coiled spring to take up wear and prevent rattles.

All side hinged casements under 5' have a single handle; on casements 5' high or over a two-throw latch is used, while on those over 7' high a three-throw latch is used.

HINGES: All hinges are specially made bronze butts with hardened steel pins. They are 2", 3 1/4", and 4" in height, depending on the weight of section and the size

of the casement. Two hinges are applied to each casement under 6', three hinges to all casements 6' high and over, and four hinges to all casements 7' 6" high and over.

WINDOWS: All corners are electrically welded and cleaned free from flux. All handle plates are welded to the casement sections. All ventilating units have two points of contact all around. Sections are designed so that in composite openings glass will be in the same plane and sight lines will be uniform throughout.

PAINTING: All steel sections are cleaned free from rust and scale previous to painting. They receive one coat of red rust-resisting paint and one coat of dark gray shop paint, each coat baked on separately.

GLAZING: Where panes are small the sash may be prepared for putty glazing from the outside. Glazing clips are furnished by us. For large lights of glass or for better appearance, sash may be fitted with moulded steel glazing stops. These are applied on the inside to prevent corrosion and to facilitate glazing. These stops may be solid rolled steel or rolled hollow for economy. Both types of stops are carefully mitered at the corners, individually fitted to each pane, and are held in place by countersunk brass screws.

SPECIFICATIONS

WINDOWS: The printed general conditions and notice to bidders preceding the specifications must be referred to and shall control all portions of this work.

All windows shall be Crittall Universal Casements as manufactured by the Crittall Casement Window Company, Detroit, Michigan. They shall be custom built to the sizes and designs shown on the drawings. Shop drawings must be submitted for the architect's approval before starting fabrication.

All work shall conform in all respects to the "Standards of Materials and Workmanship" published on page 17 of Crittall's catalogue in Sweet's current edition.

FRAMES: The sash manufacturer shall furnish, delivered to the building site, frames (*mullions*) (*transoms*) of twelve-gauge pressed metal as shown on the drawings.

FINS: A continuous angle fin around the head and jambs shall be furnished and set by the sash manufacturer when erecting the casements.

Note: Fins are used in veneer construction when no frames are used. See pages 24, 25, 30.

GLAZING: (*Sash shall be fitted with spring clips for putty glazing from the outside*) (*sash shall be fitted with solid rolled steel glazing stops applied from inside*) (*sash shall be fitted with hollow rolled steel glazing stops applied from inside*).

HARDWARE: Shall be as follows:

Note: Indicate choice. See pages 6, 7, 8.

Side Hinged (*Out*) (*In*) Opening Casements; Vertically Pivoted Casements: Handle (No. 205) (No. 206) (No. 211) on plate (No. 225) (No. 229).

Double Casements (*Out*) (*In*) Opening: Cremorne bolt with handle (No. 306) (No. 310).

Out-Opening Casements: Stays (*Friction*) (No. 108 *Sliding*) (No. 107 *Peg*).

In-Opening Casements: Stays (*Friction*) (No. 107 *Peg*).

Bottom Hinged Transoms: Spring catch (No. 2 AS) (No. 3 AS) (*concealed side arms*) (*friction stays*).

Horizontally Pivoted Transoms: Spring catch No. 2 AS.

Note: Friction stays should be specified when pole control is desired.

DOORS: (*Bronze thresholds*) (*double-thick steel kick plates*) (*cylinder locks*) (*master keyed*) (*dummy lock to match*) (*double-operating cremorne bolts*) (*floor stops*) (*friction stays*) (*bronze top and bottom bolts*).

Note: For door hardware see page 37.

ERECTION: All windows shall be set in place by the manufacturer and all joints between the steel sash and the collateral construction shall be made tight with the use of Crittall Mastic Cement, neatly pointed on the exterior. All hardware shall be shipped to the job separately and shall be applied by the manufacturer after glazing and after the rough trades are out of the building:

Notes to be included in specifications of others

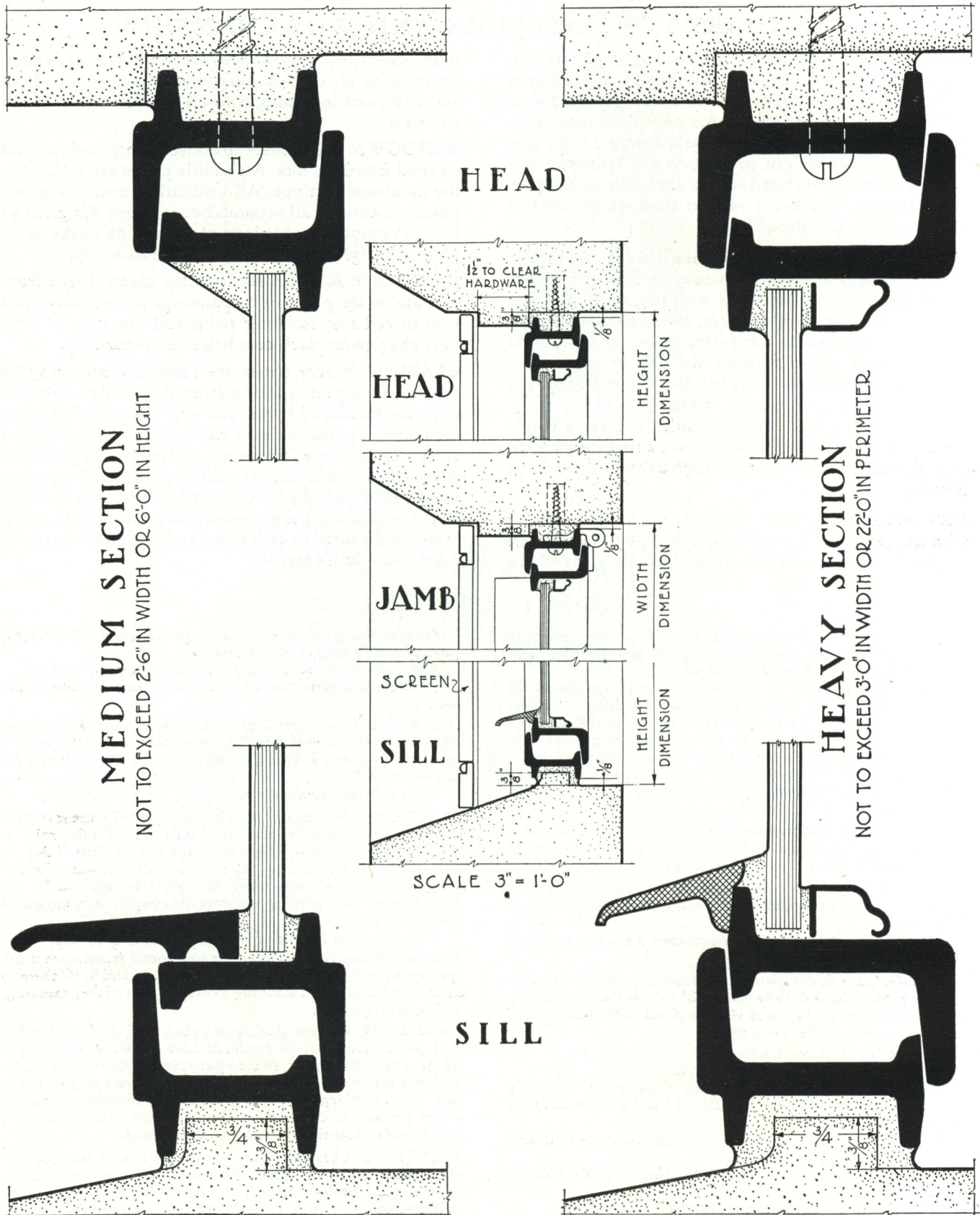
MASON: When twelve-gauge pressed metal frames are used, specify that the mason shall set them in place and build them in as the walls go up, including cementing in place, caulking, and pointing neatly.

GLAZIER: When steel glazing stops are used they are fitted to each pane. Insist that the glazier remove the stops for one light of glass at one time, apply face putty, insert glass, back putty, and then screw the stops back into place before going on to the next pane. For large lights of glass specify that the glazier use wood wedges as directed by the casement manufacturer. A good grade of steel sash putty should be used.

PAINTER: The casements arrive on the job with two coats of shop paint baked on. The last coat is designed to take any finished paint desired. Specify that the painter shall apply in the field two coats of paint of the desired color and quality.

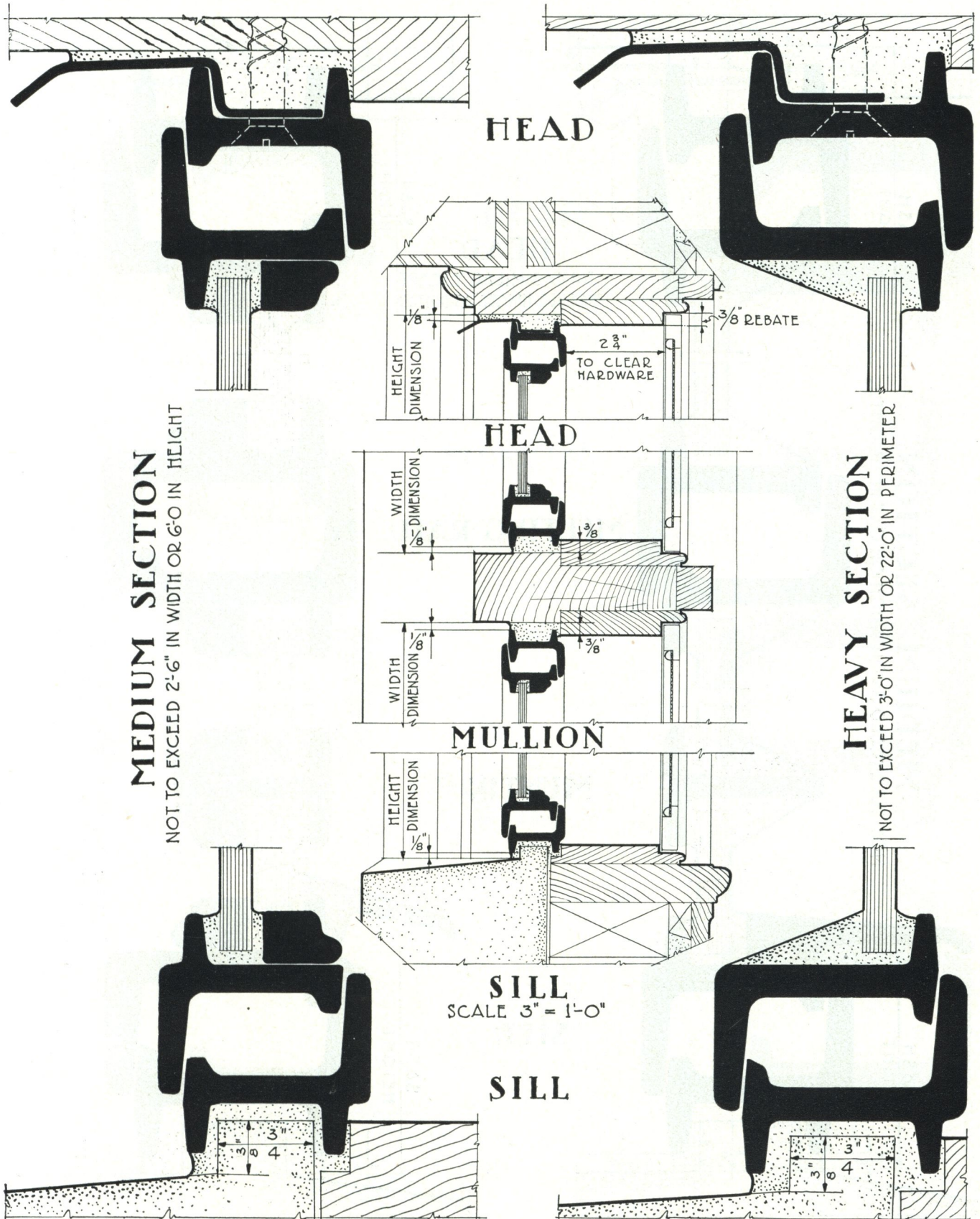
UNIVERSAL CASEMENTS

SIDE HINGED IN-OPENING CASEMENT DETAILS



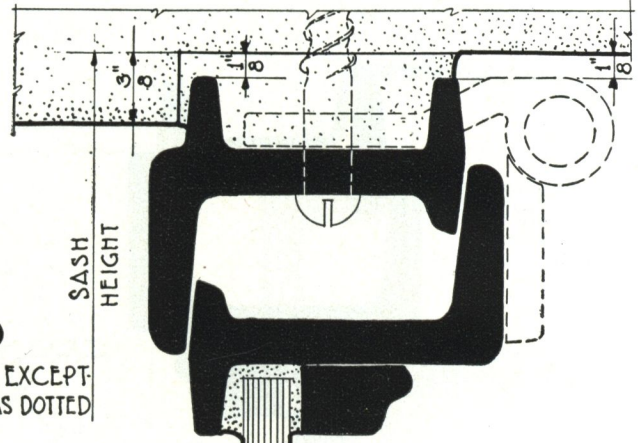
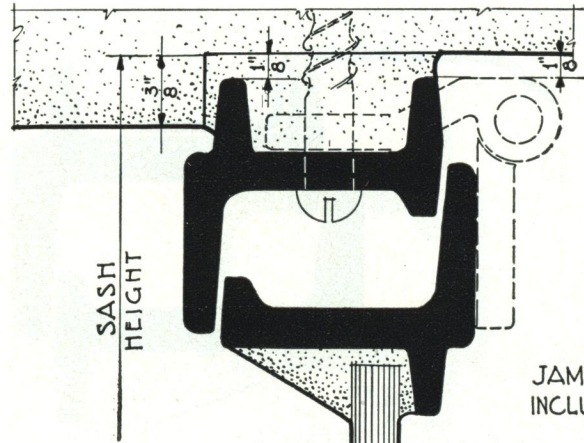
UNIVERSAL CASEMENTS

SIDE HINGED OUT-OPENING CASEMENT DETAILS



UNIVERSAL CASEMENTS

DOUBLE CASEMENT (FOLDER) IN-OPENING DETAILS



HEAD

JAMB SIMILAR EXCEPT
INCLUDE HINGES AS DOTTED

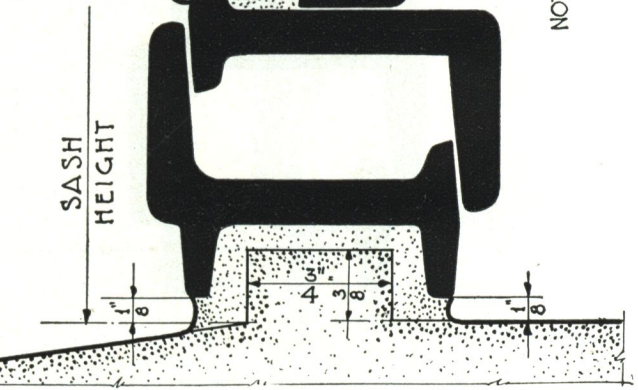
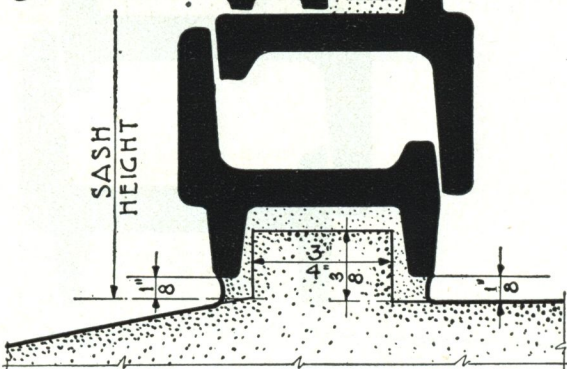
MEDIUM SECTION

NOT TO EXCEED 5'-0" IN WIDTH OR 6'-0" IN HEIGHT

MEETING RAIL

MUNTIN

SILL

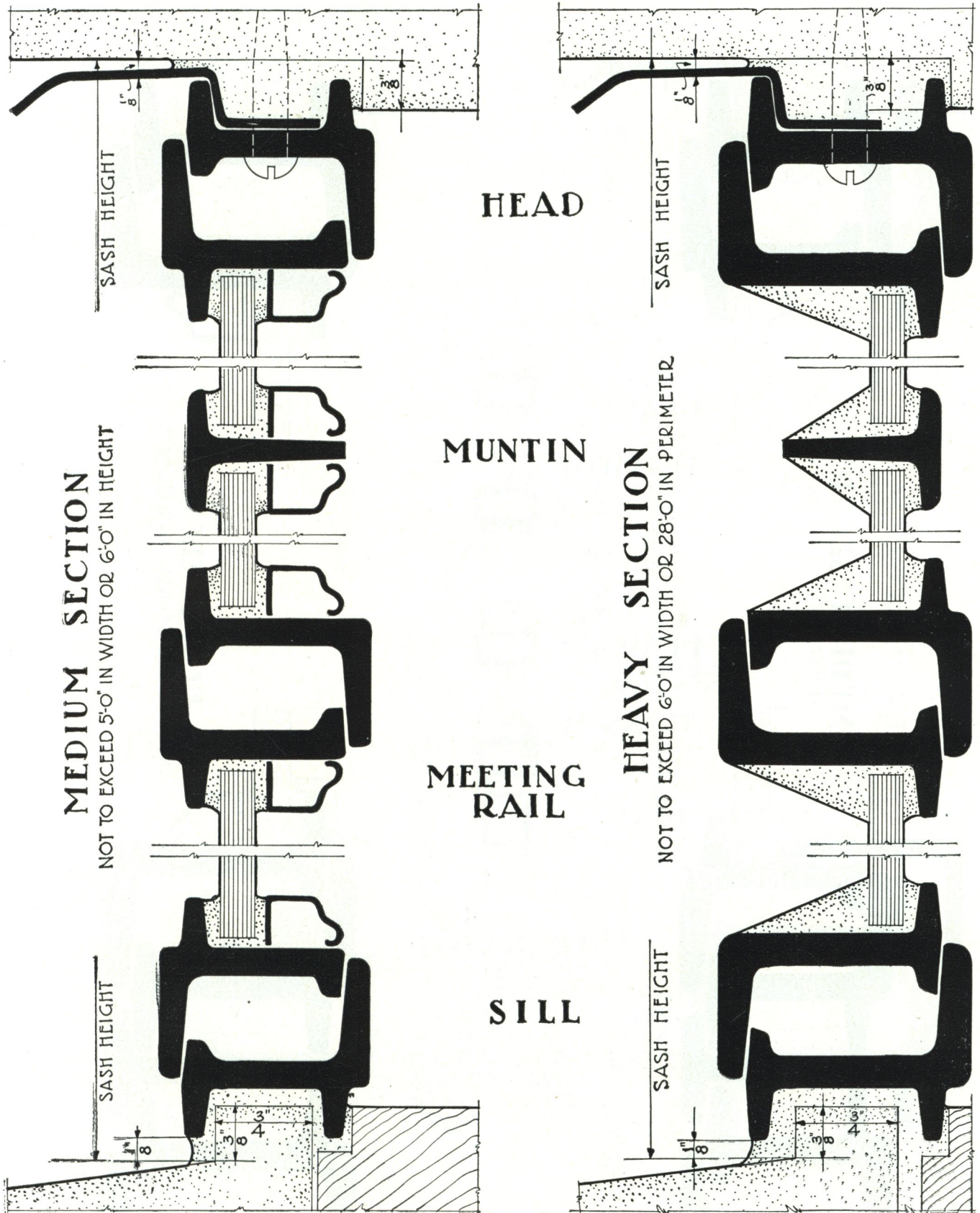


HEAVY SECTION

NOT TO EXCEED 6'-0" IN WIDTH OR 28'-0" IN PERIMETER

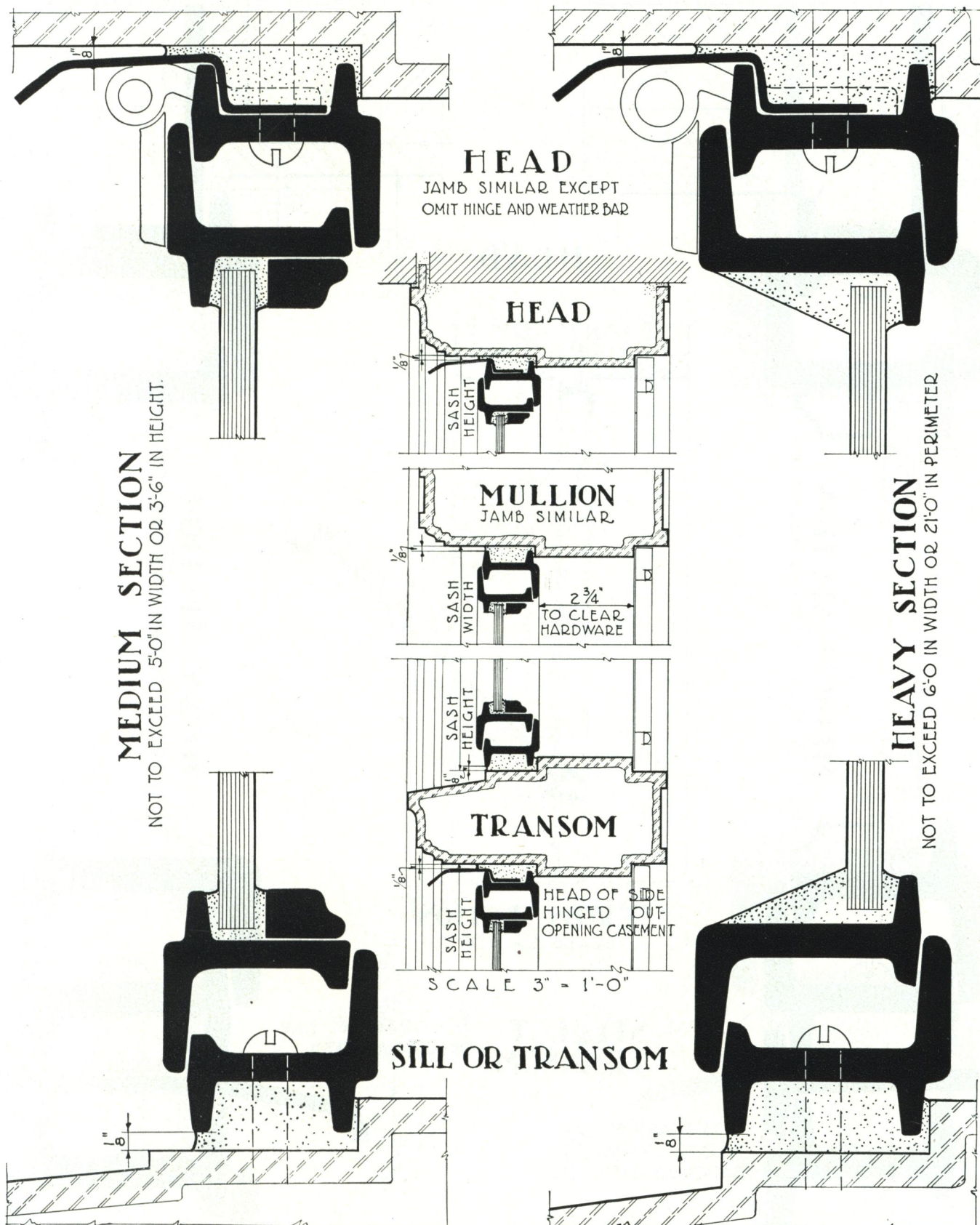
UNIVERSAL CASEMENTS

DOUBLE CASEMENT (FOLDER) OUT-OPENING DETAILS



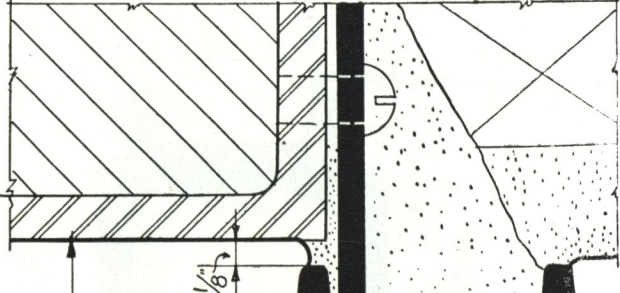
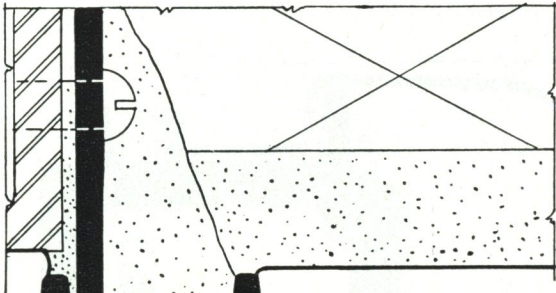
UNIVERSAL CASEMENTS

TOP HINGED OUT-OPENING CASEMENT DETAILS



UNIVERSAL CASEMENTS

PROJECTED IN AT TOP CASEMENT DETAILS

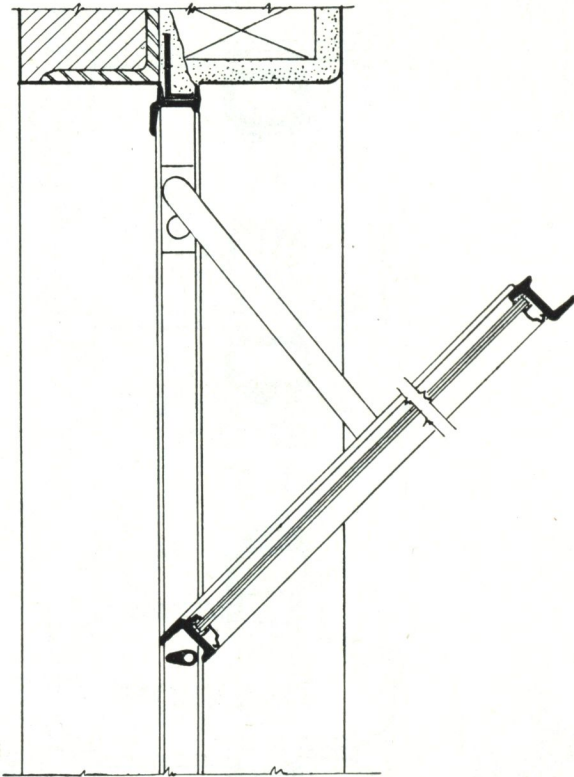


HEAD

SASH
HEIGHT

MEDIUM SECTION
NOT TO EXCEED 4'-0" IN WIDTH OR 2'-6" IN HEIGHT

HEAVY SECTION
NOT TO EXCEED 5'-0" IN WIDTH OR 15'-0" IN PERIMETER



CROSS SECTION
SCALE $\frac{3}{16}'' = 1'-0''$

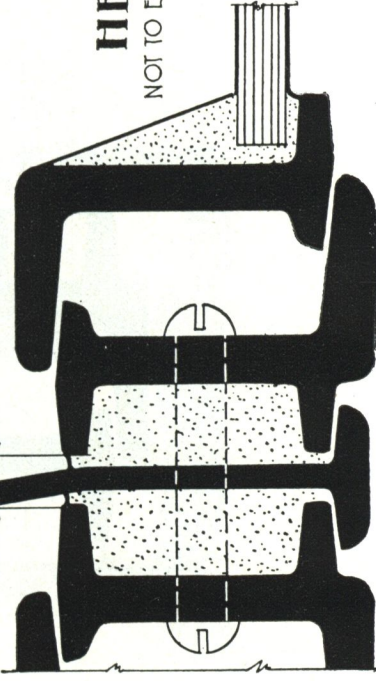
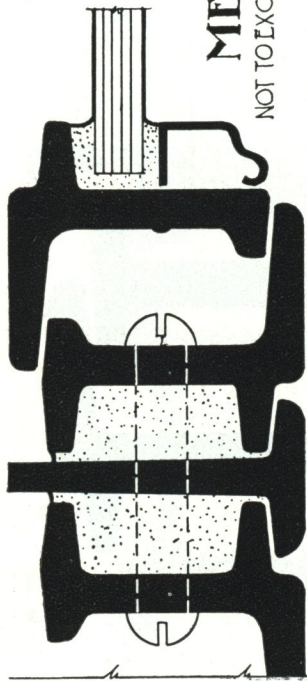
STEEL T-TRANSOM

#105 TRANSOM BAR
OUT-OPENING SASH

#103 TRANSOM BAR
OVER IN-OPENING OR
STATIONARY SASH BELOW

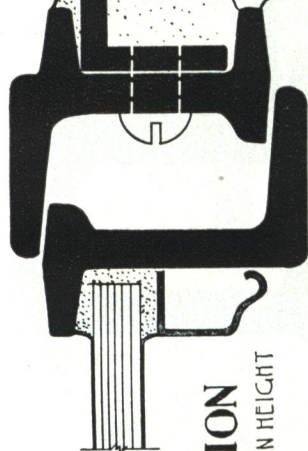
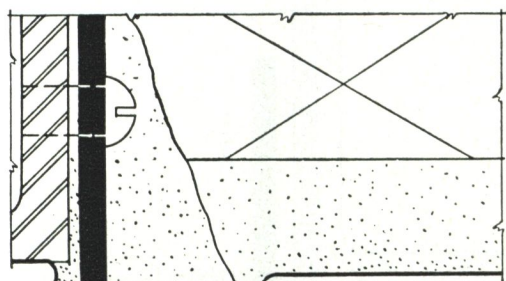
SASH
HEIGHT

$\frac{1}{4}''$



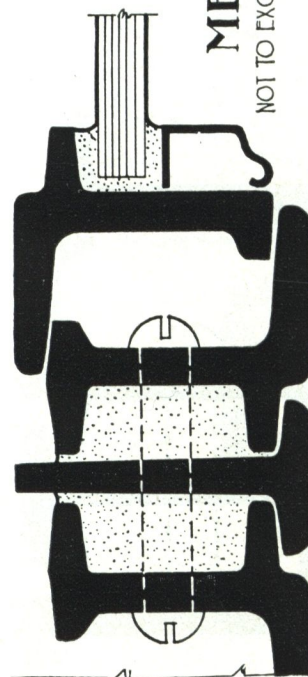
UNIVERSAL CASEMENTS

PROJECTED OUT AT BOTTOM CASEMENT DETAILS

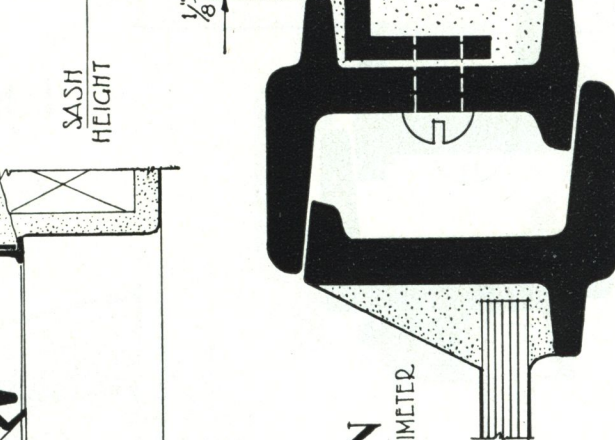
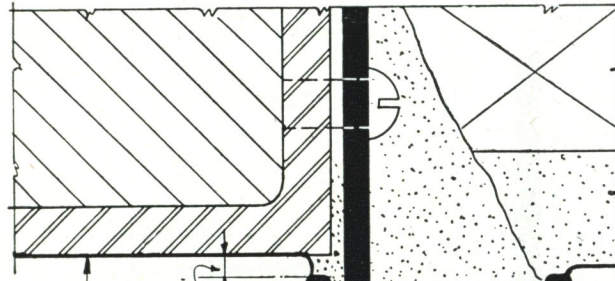


MEDIUM SECTION

NOT TO EXCEED 4'-0" IN WIDTH OR 2'-6" IN HEIGHT

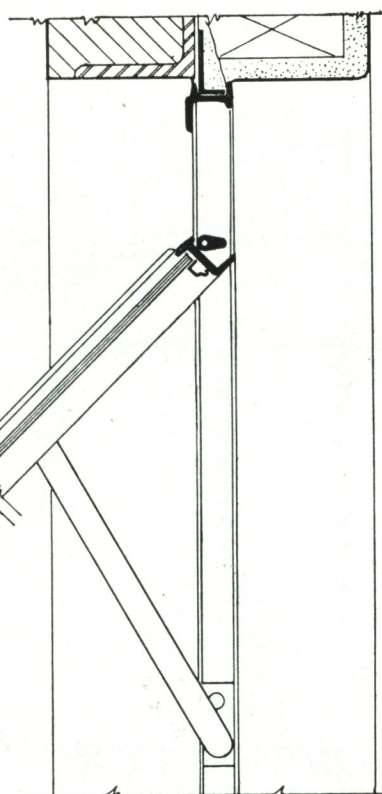
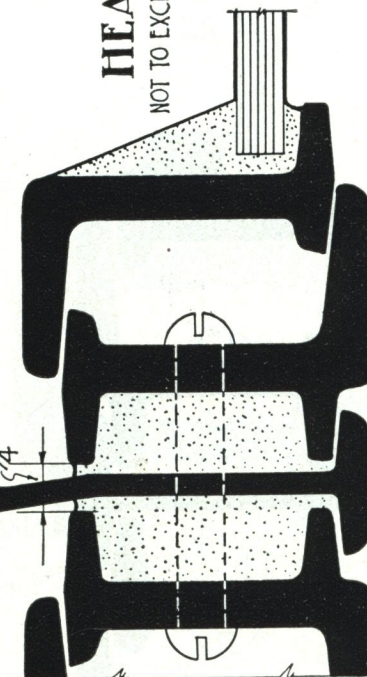


HEAD



HEAVY SECTION

NOT TO EXCEED 5'-0" IN WIDTH OR 15'-0" IN PERIMETER



CROSS SECTION

SCALE $\frac{3}{16}'' = 1'-0''$

**STEEL T
TRANSOM**

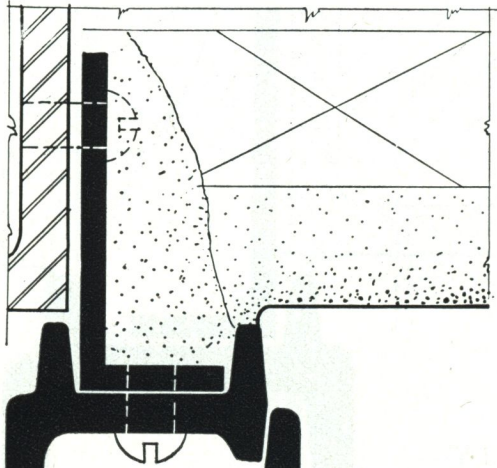
#103 TRANSOM BAR
OVER IN-OPENING OR
STATIONARY SASH BELOW

SASH
HEIGHT
#105 TRANSOM BAR
OUT-OPENING SASH

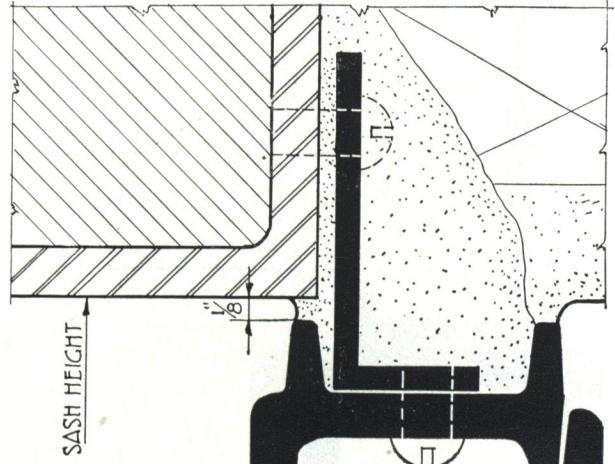
SASH
HEIGHT

UNIVERSAL CASEMENTS

HORIZONTALLY PIVOTED (AT JAMBS) CASEMENT DETAILS



HEAD



SASH HEIGHT

MEDIUM SECTION

NOT TO EXCEED 3'-6" IN WIDTH OR 4'-0" IN HEIGHT

HEAVY SECTION

NOT TO EXCEED 5'-0" IN WIDTH OR 18'-0" IN PERIMETER



STEEL-T-TRANSOM

* 103 TRANSOM BAR OVER IN-OPENING OR STATIONARY SASH BELOW

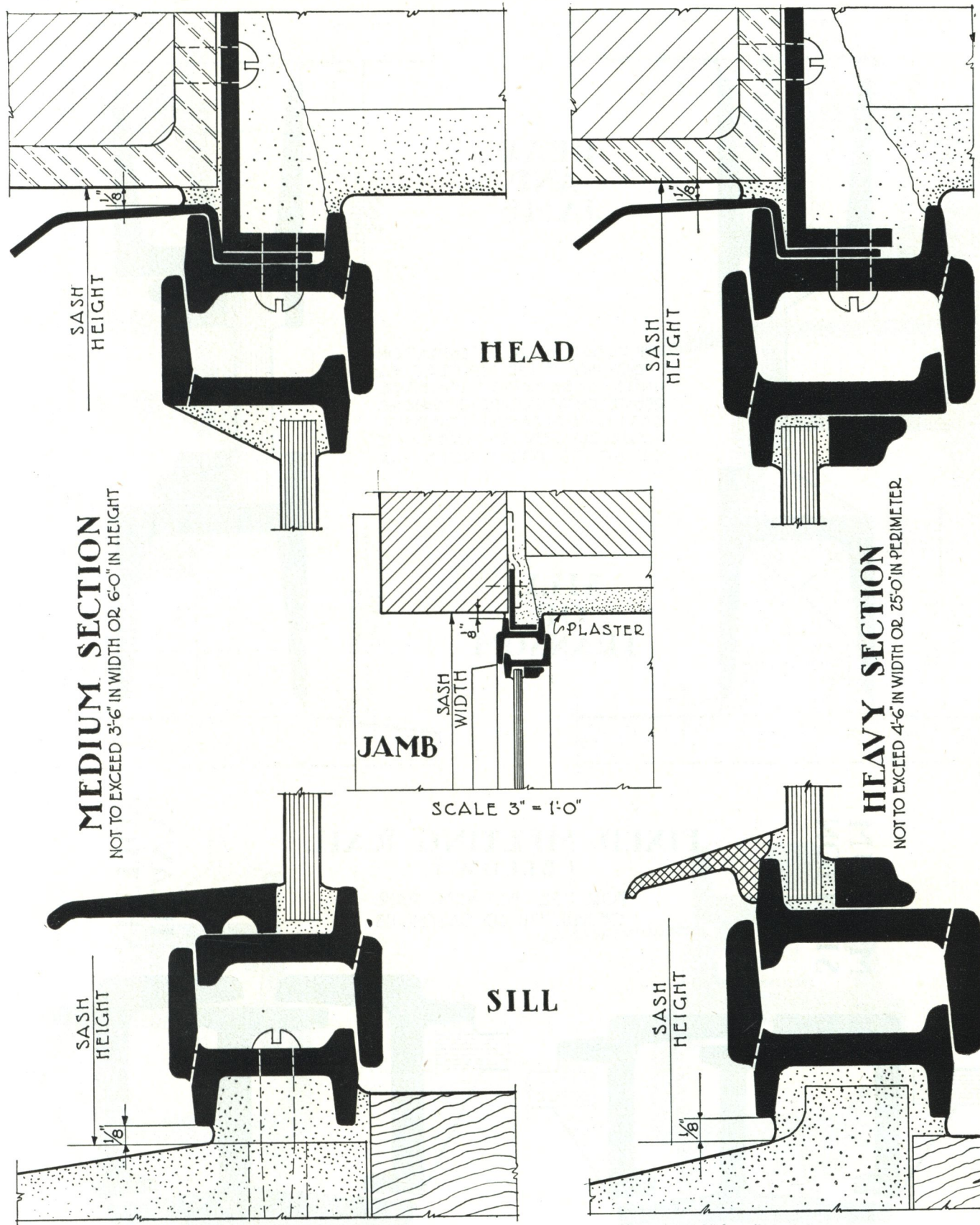
SASH HEIGHT

* 105 TRANSOM BAR OUT OPENING SASH.

1/8"

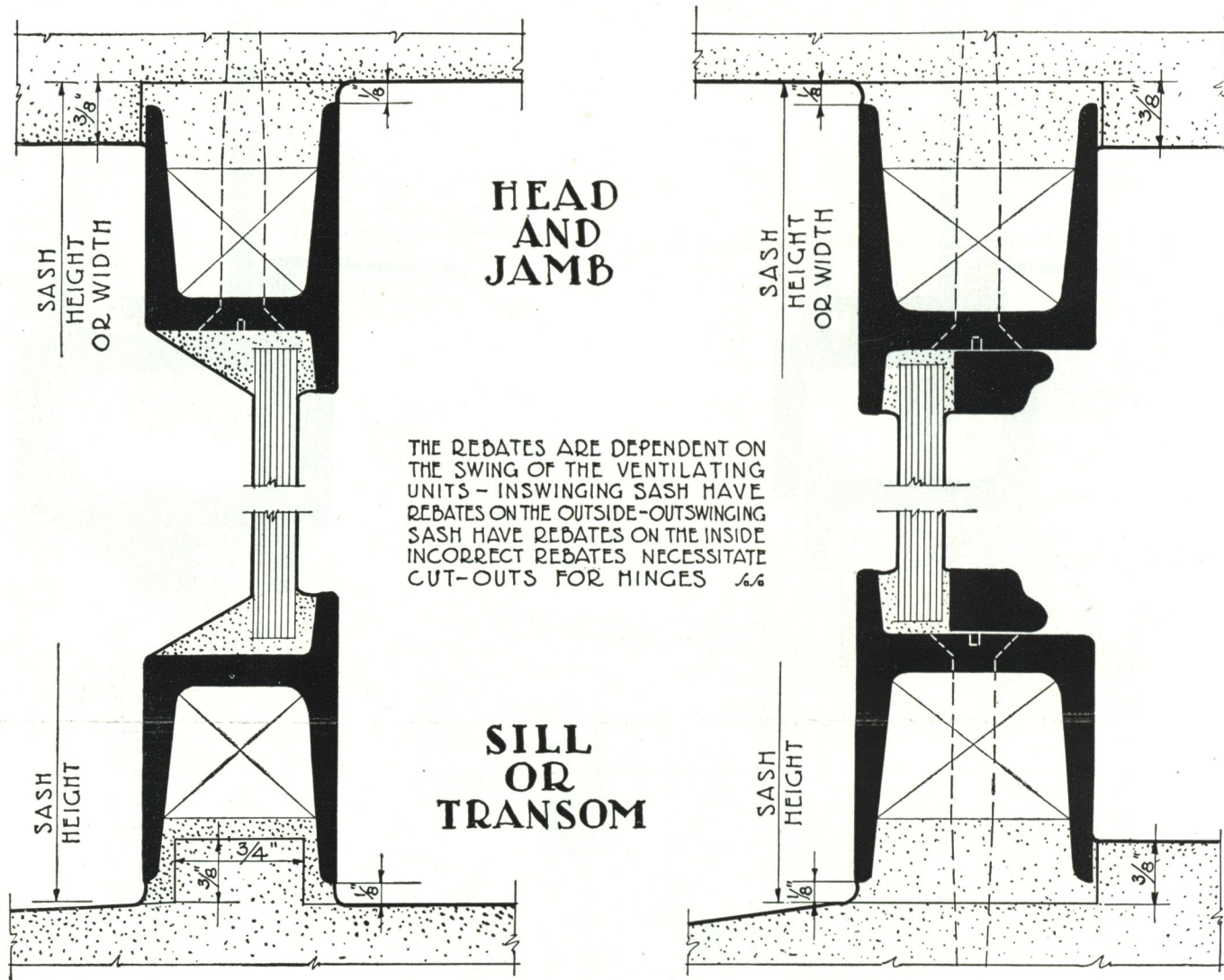
UNIVERSAL CASEMENTS

VERTICALLY PIVOTED (TOP AND BOTTOM) CASEMENT DETAILS



UNIVERSAL CASEMENTS

STATIONARY SASH (FIXED LIGHTS) DETAILS

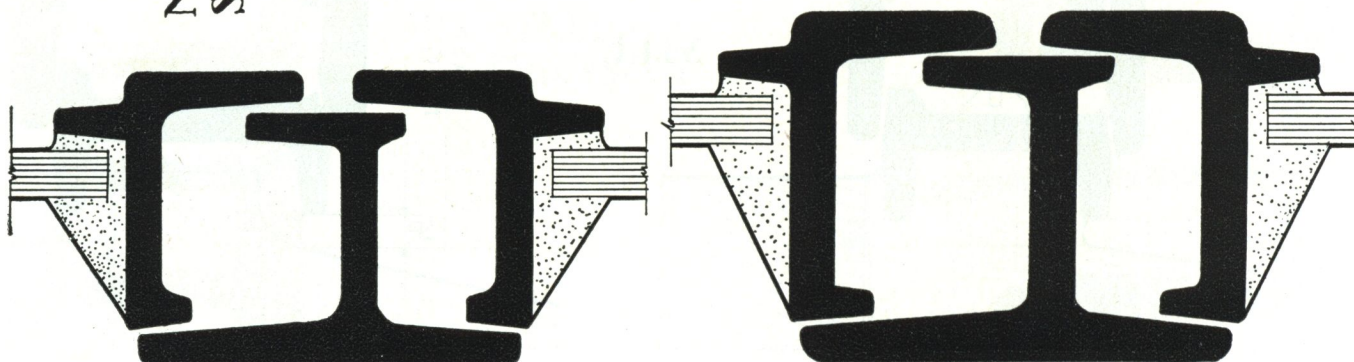


**MEDIUM
SECTION**

FIXED MEETING RAIL (BELOW)

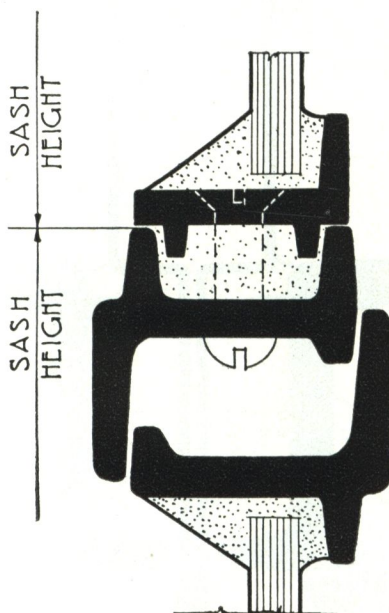
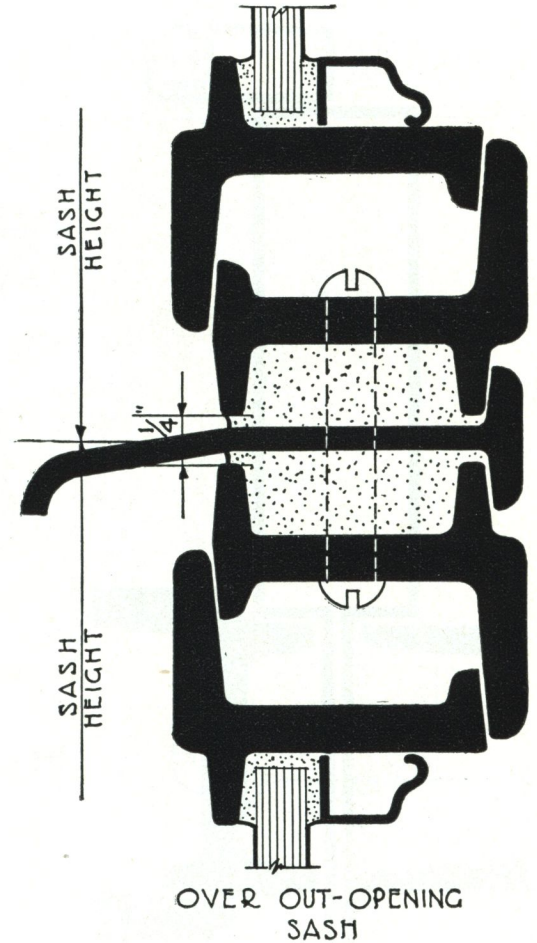
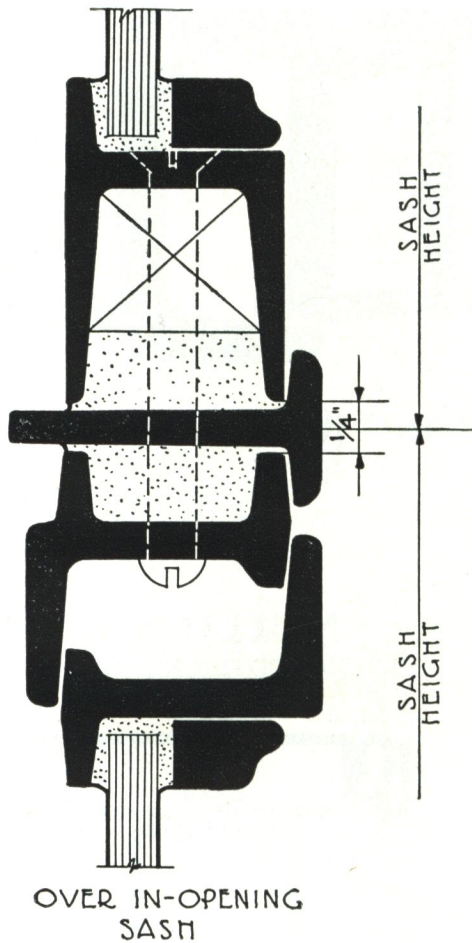
FOR USE BETWEEN PAIR
OF SIDE HINGED CASEMENTS

**HEAVY
SECTION**



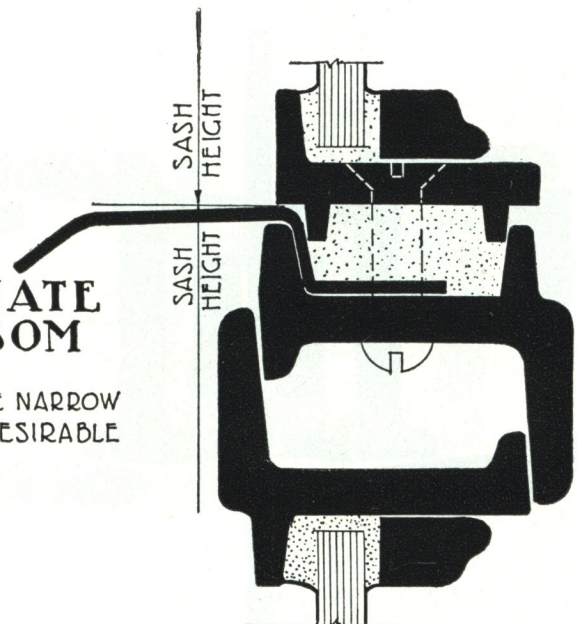
UNIVERSAL CASEMENTS

TRANSOM BAR DETAIL



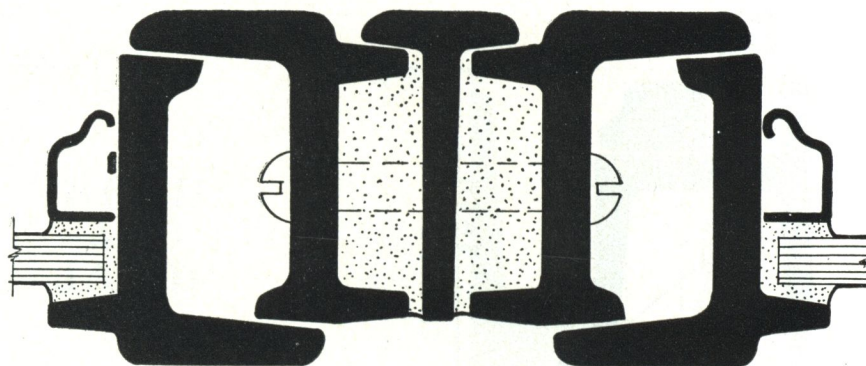
ALTERNATE TRANSOM

FOR USE WHERE NARROW SIGHT LINE IS DESIRABLE

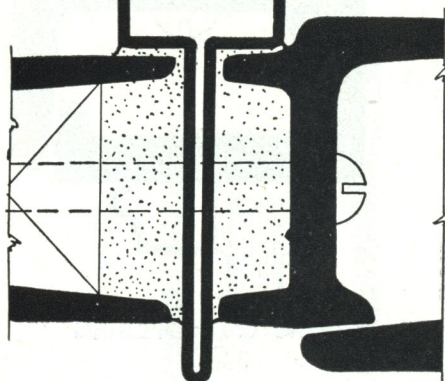


UNIVERSAL CASEMENTS

MULLION DETAILS

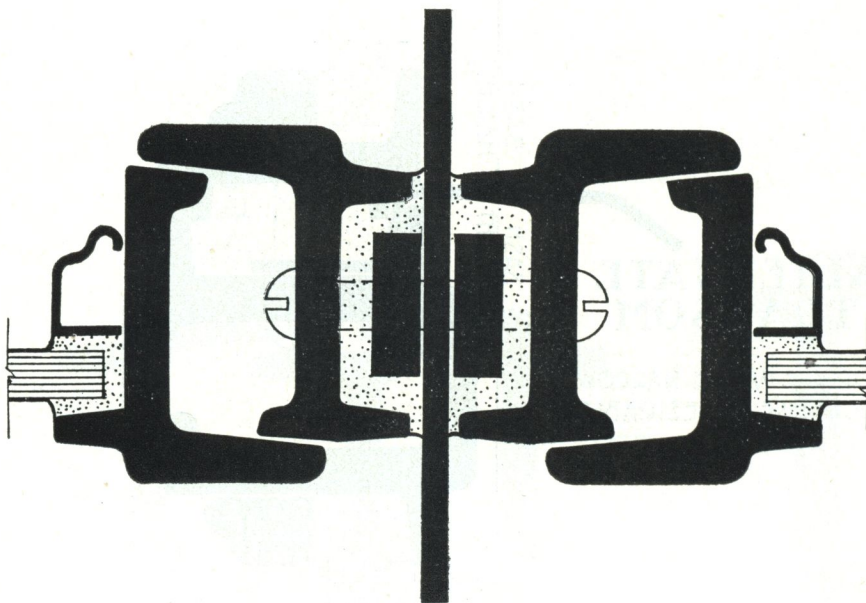


T MULLION #103

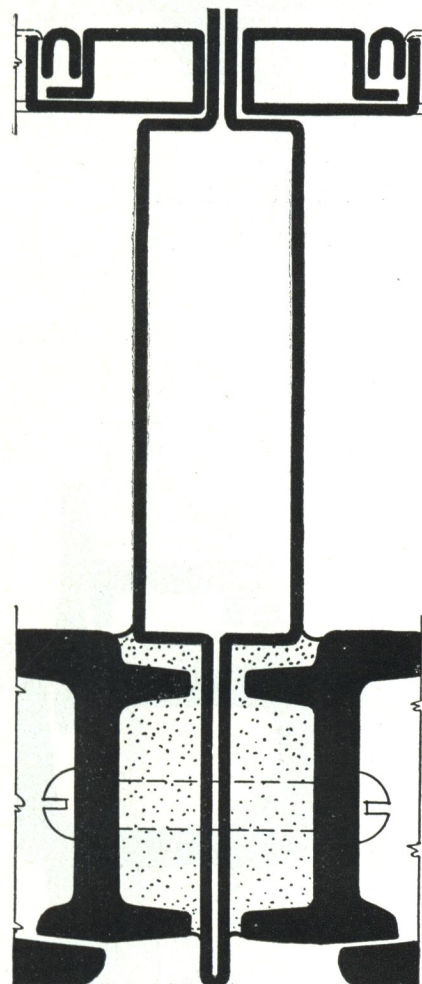


MULLION A

MULLION #101
FOR GREATER STRENGTH



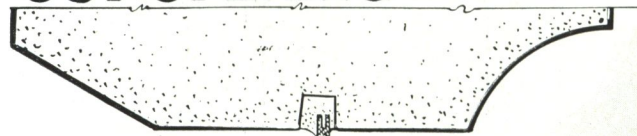
MULLION B
14 GAUGED PRESSED METAL



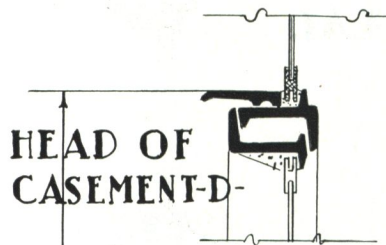
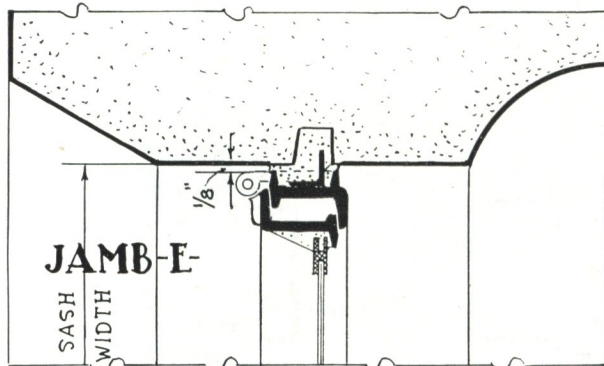
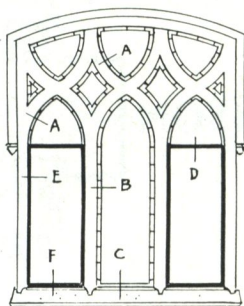
UNIVERSAL CASEMENTS

DETAILS FOR ECCLESIASTICAL WORK

OUT OPENING



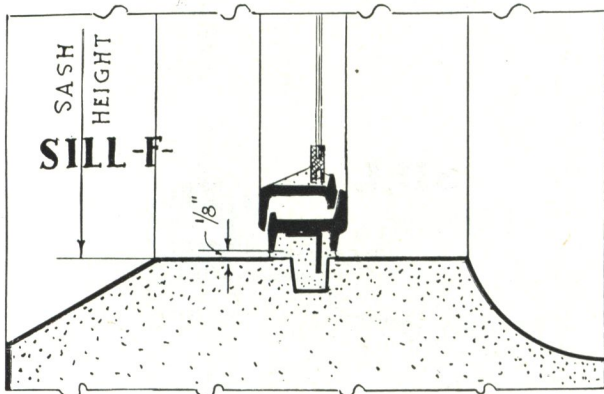
HEAD-A-

JAMB-B-
SILL-C-} SIMILARHEAD OF
CASEMENT-D-SASH
HEIGHT

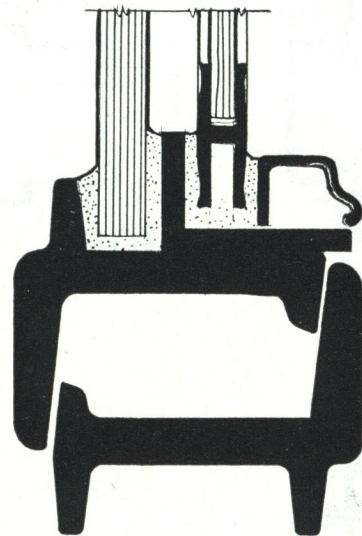
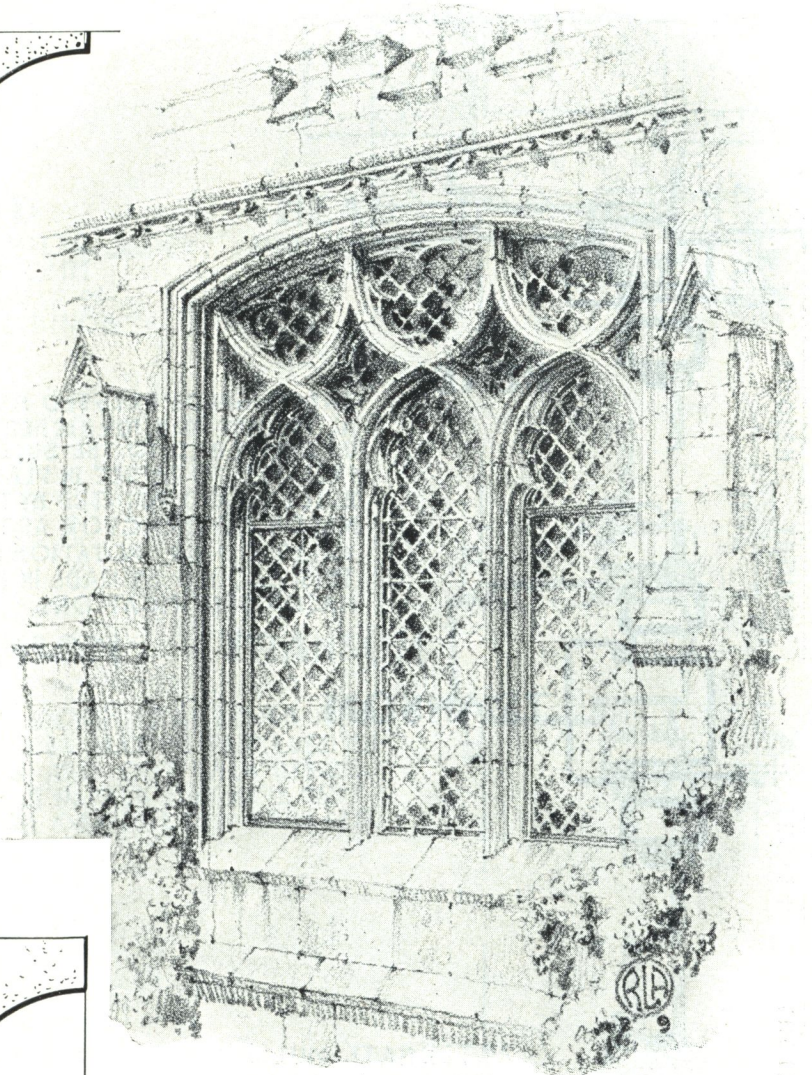
JAMB-E-

SASH
WIDTH

SCALE 3" = 1'-0"

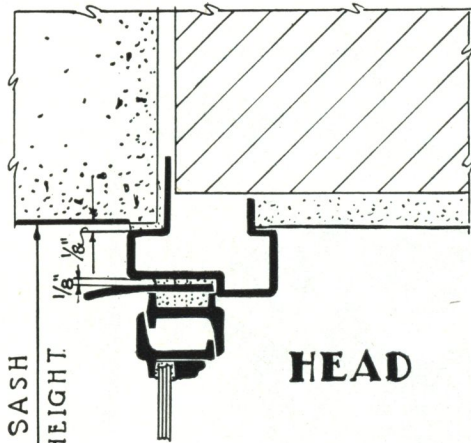
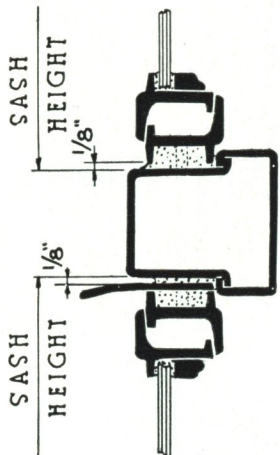
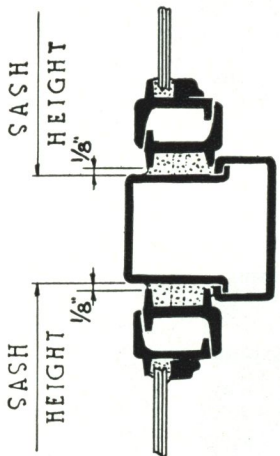
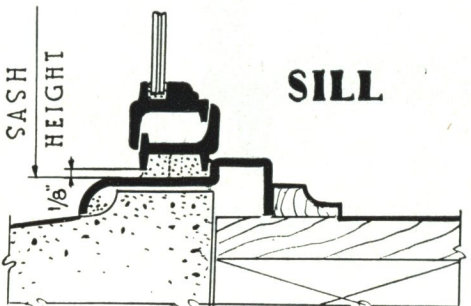


SILL-F-

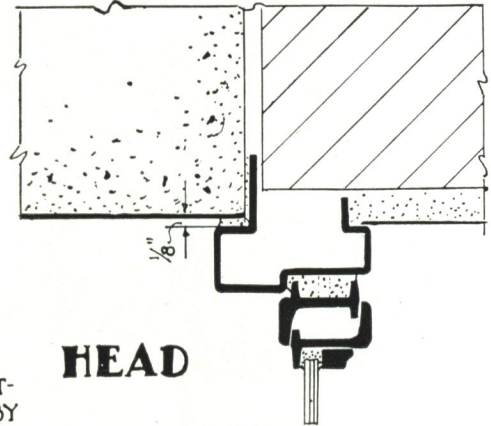
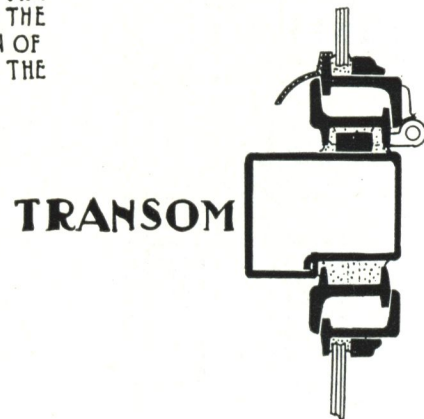
SASH
HEIGHTFULL SIZE DOUBLE
GLAZING DETAIL

UNIVERSAL CASEMENTS

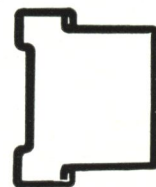
OUT-OPENING SET IN BUILT-IN FRAMES IN-OPENING

**HEAD****TRANSOM****MULLION****SILL**

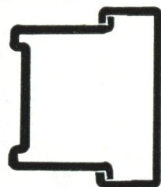
TWELVE GAUGE PRESSED METAL FRAMES ARE FURNISHED BY US DELIVERED TO THE BUILDING SITE, TO BE SET IN PLACE, BUILT IN AND POINTED BY THE MASON CONTRACTOR AS THE WALLS GO UP. NOTATION OF THIS SHOULD BE MADE IN THE MASON SPECIFICATIONS.

**HEAD****TRANSOM**

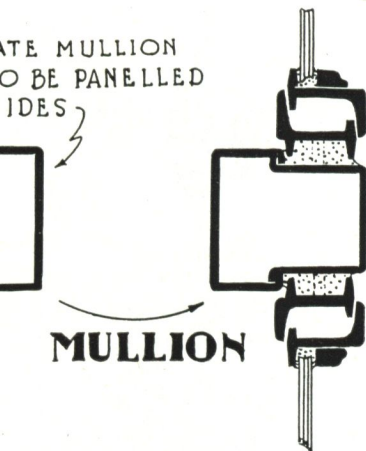
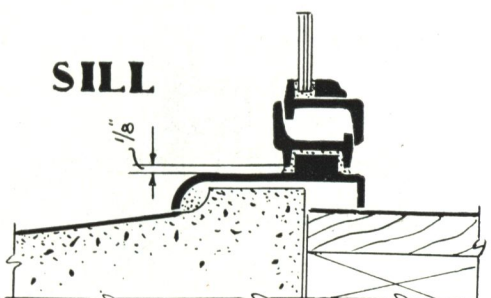
ALTERNATE MULLION MAY ALSO BE PANELLED BOTH SIDES

**MULLION**

ALTERNATE MULLION PANELLED ON OUTSIDE

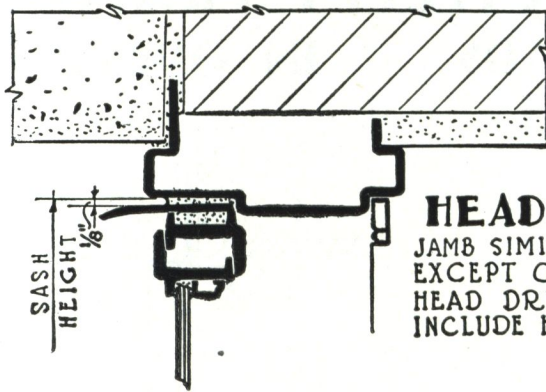


SCALE 3" = 1'-0"

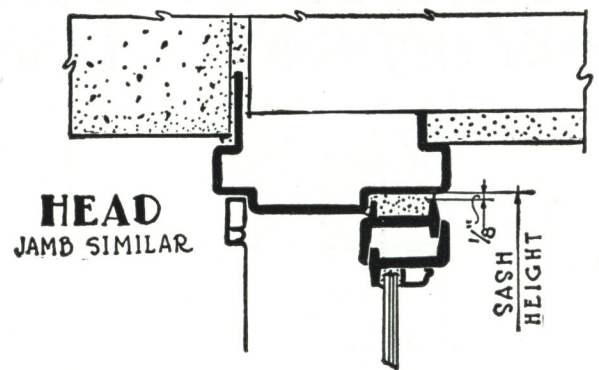
**MULLION****SILL**

UNIVERSAL CASEMENTS

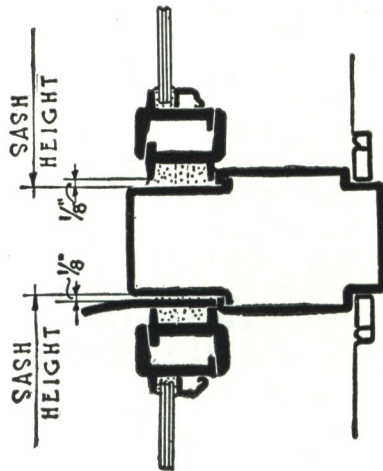
OUT-OPENING SET IN BUILT-IN FRAMES IN-OPENING



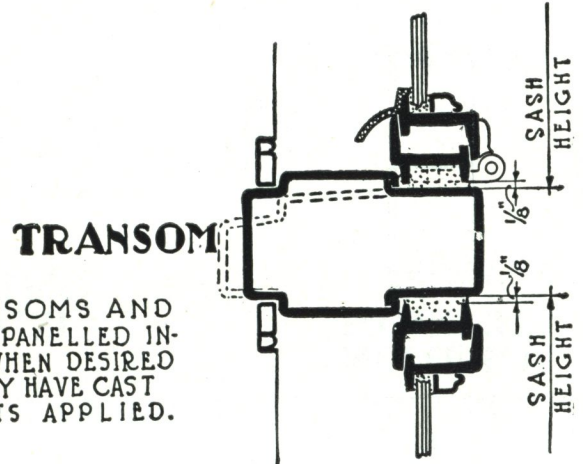
HEAD
JAMB SIMILAR
EXCEPT OMIT
HEAD DRIP &
INCLUDE HINGE



HEAD
JAMB SIMILAR

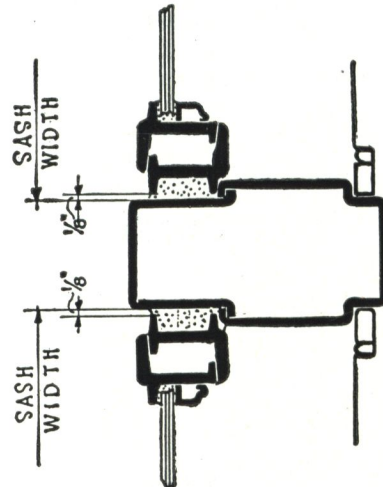


TRANSOM

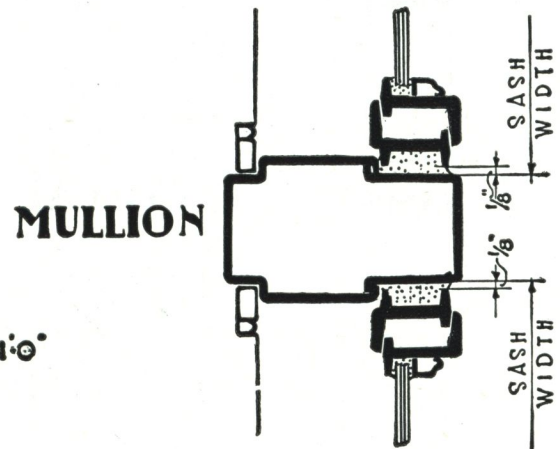


TRANSOM

MULLIONS, TRANSOMS AND
FRAMES MAY BE PANELLED IN-
SIDE AND OUT WHEN DESIRED
SUCH PANELS MAY HAVE CAST
IRON ORNAMENTS APPLIED.

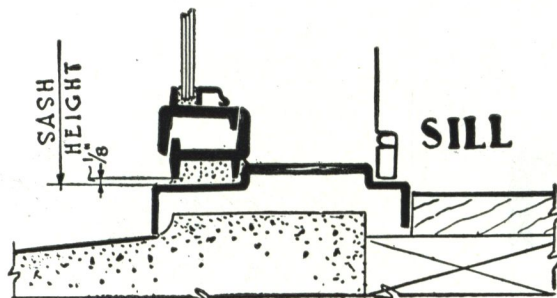


MULLION

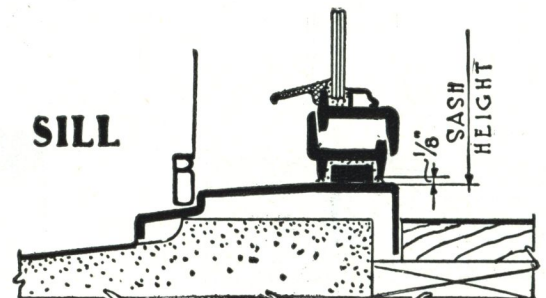


MULLION

SCALE 3" = 1'-0"



SILL

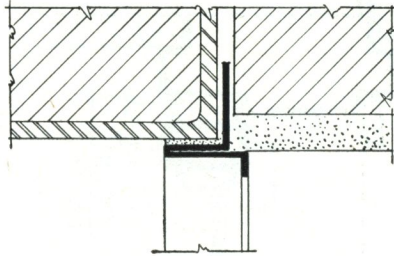
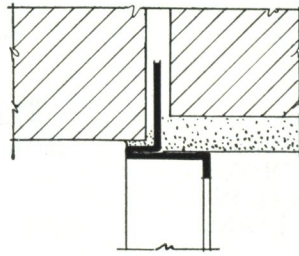
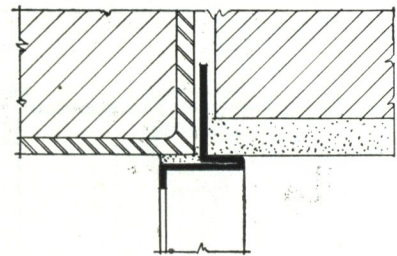
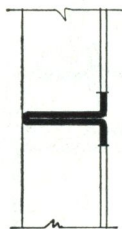
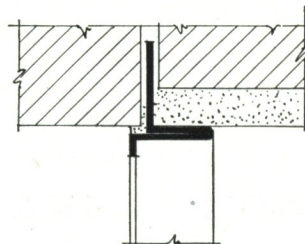
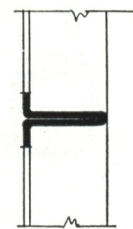
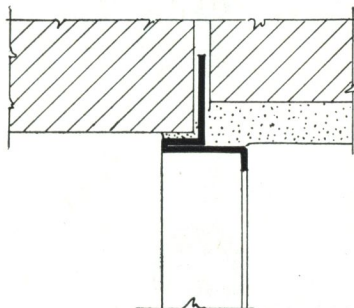


SILL

UNIVERSAL CASEMENTS

DETAILS OF BUILT IN UTILITY FRAMES

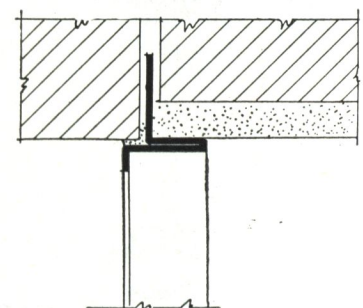
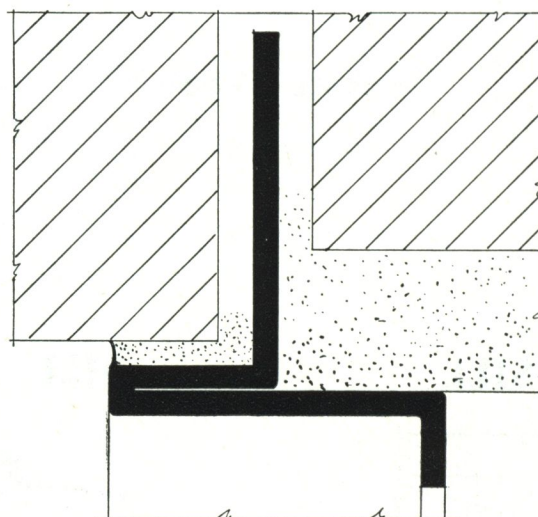
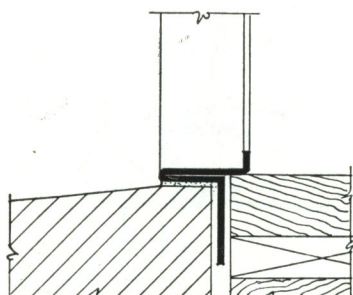
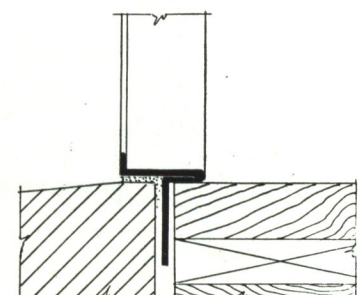
OUT OPENING CURVED HEADS IN OPENING

**HEAD****OUT OPENING****HEAD****TRANSOM
& MULLION****IN OPENING****TRANSOM
& MULLION****JAMB**

SCALE OF DETAILS 3" = 1'-0"

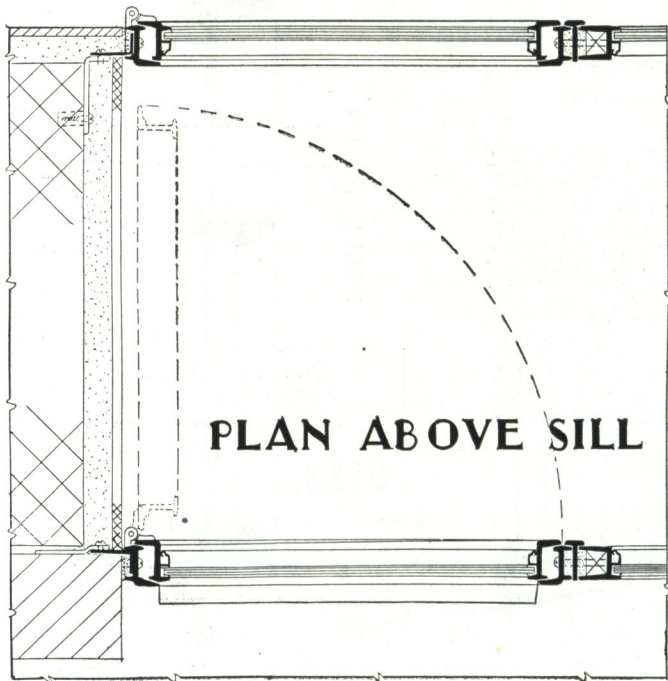
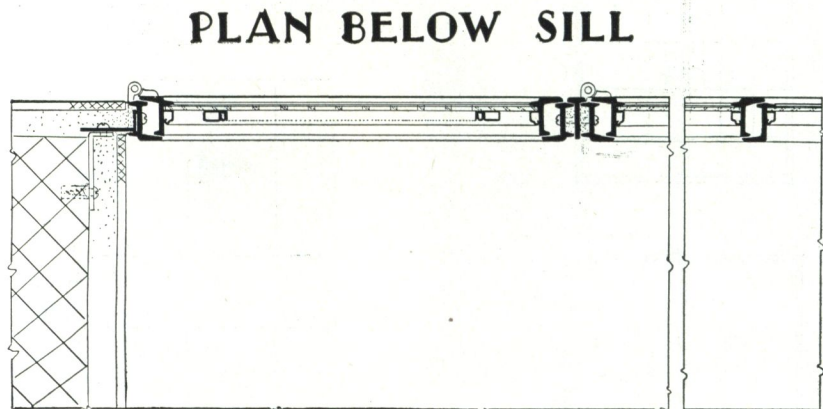
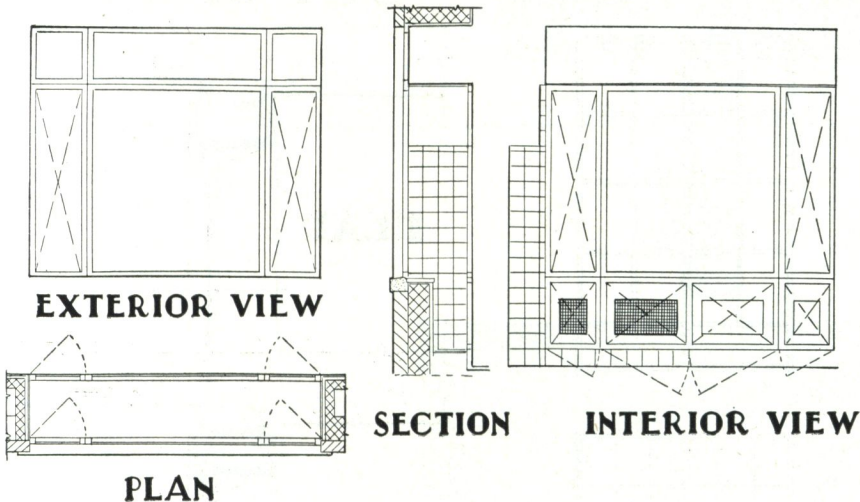
TWELVE GAUGE PRESSED METAL FRAMES ARE FURNISHED BY US DELIVERED TO THE BUILDING SITE, TO BE SET IN PLACE BUILT IN AND POINTED BY THE MASON CONTRACTOR AS THE WALLS GO UP. NOTATION OF THIS SHOULD BE MADE IN THE MASON SPECIFICATIONS

TYPICAL DETAIL-FULL SIZE

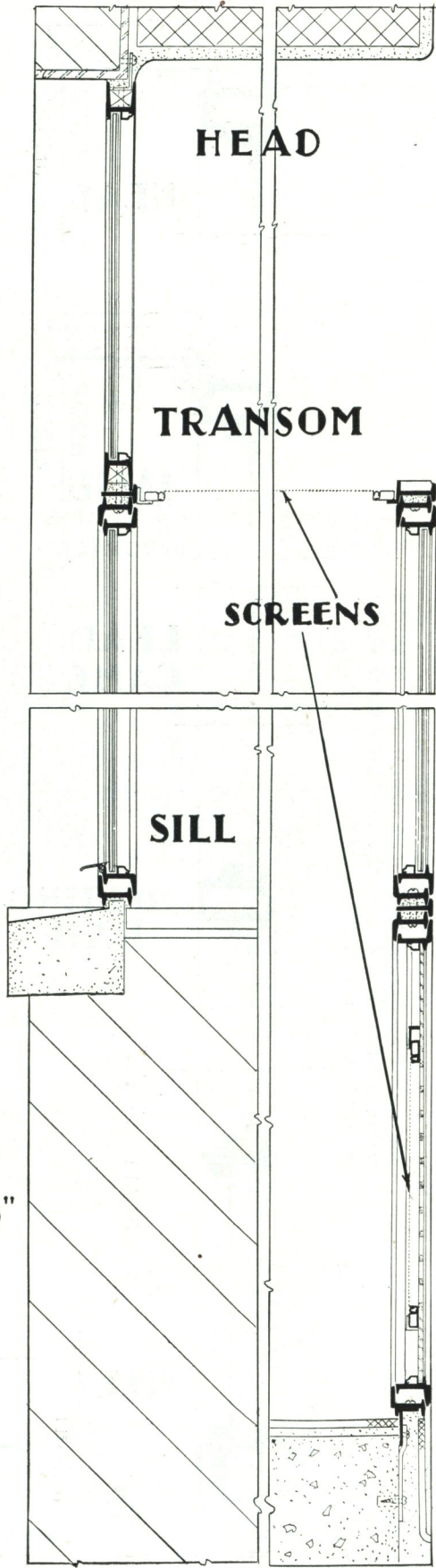
**JAMB****SILL****SILL**

UNIVERSAL CASEMENTS

HOSPITAL OPERATING ROOM DETAILS



SCALE
 $1\frac{1}{2}'' = 1'-0''$

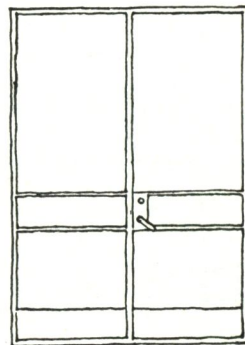
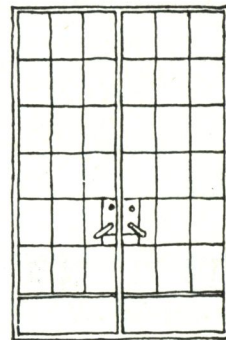
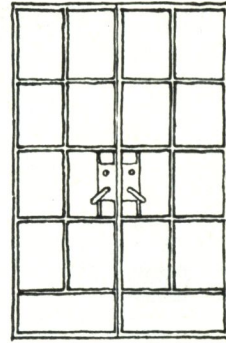
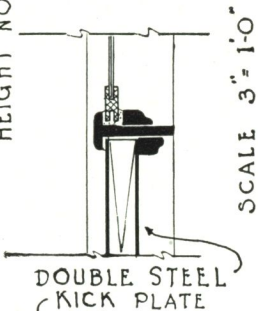
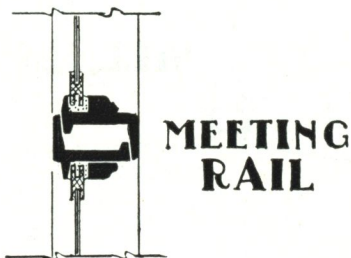
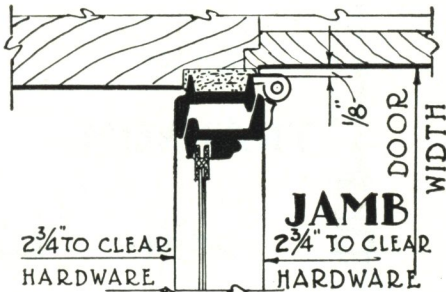
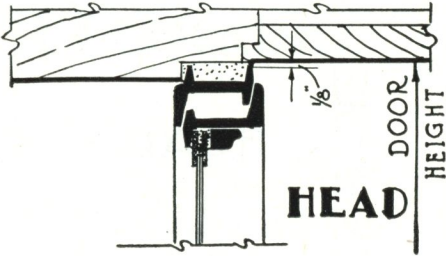


UNIVERSAL CASEMENTS

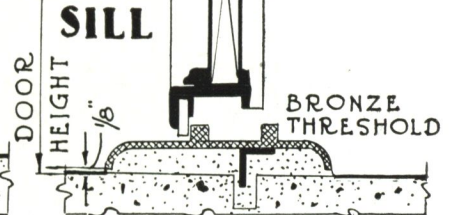
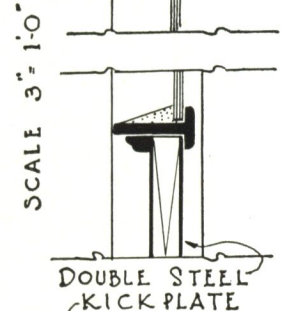
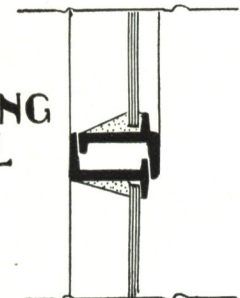
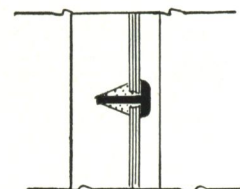
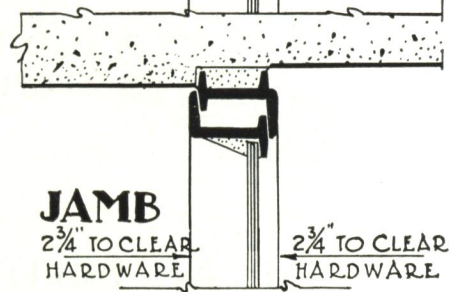
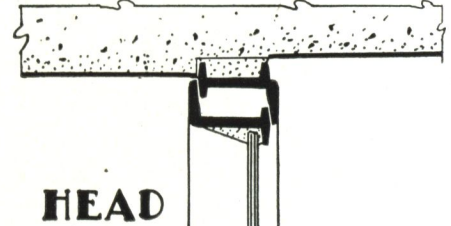
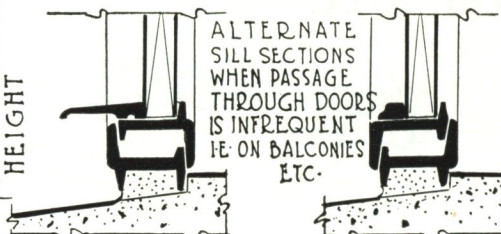
IN-OPENING

DOOR DETAILS

OUT-OPENING



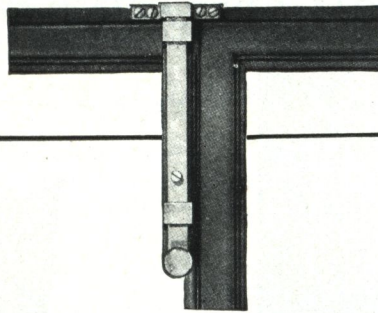
TO PREVENT GLASS BREAKAGE LOCKS MUST ALWAYS BE FRAMED BY STEEL MUNTINS OR LEAD CAMES GLASS SHOULD NEVER BE CUT OUT TO FIT AROUND THE LOCK AS THE GLASS WILL ALWAYS FRACTURE WITH THE SLAMMING OF THE DOOR—THE HEIGHT OF THE LOCK FROM THE FLOOR MAY VARY TO PERMIT BETTER PANE ARRANGEMENT—THE HEIGHT OF THE KICKPLATE MAY ALSO VARY.



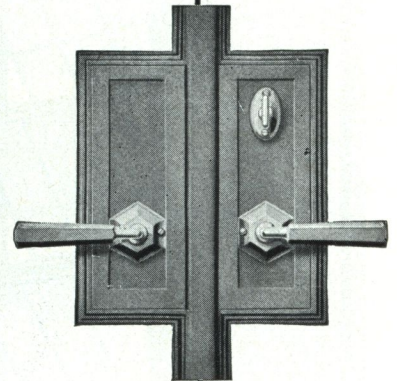
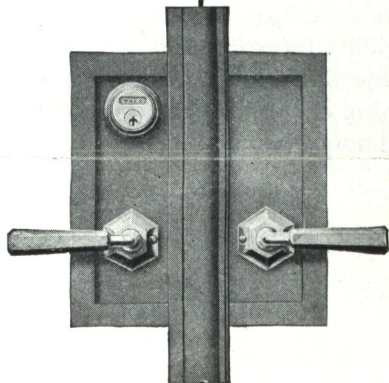
DOORS OF MAXIMUM SIZE, OR CLOSE TO MAXIMUM REQUIRE A KICK PLATE NOT LESS THAN 9\"/>

UNIVERSAL CASEMENTS

DOOR HARDWARE



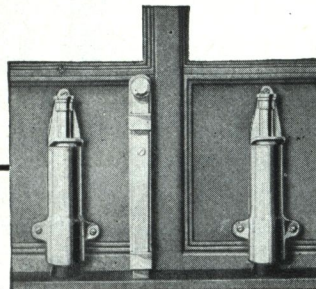
*Residence, Grosse Pointe, Michigan
Robert O. Derrick, Inc., Architects*



HANDLES No. 310 may be placed horizontally or vertically. Handles No. 306 are also used. These are usually placed at a 45° angle.

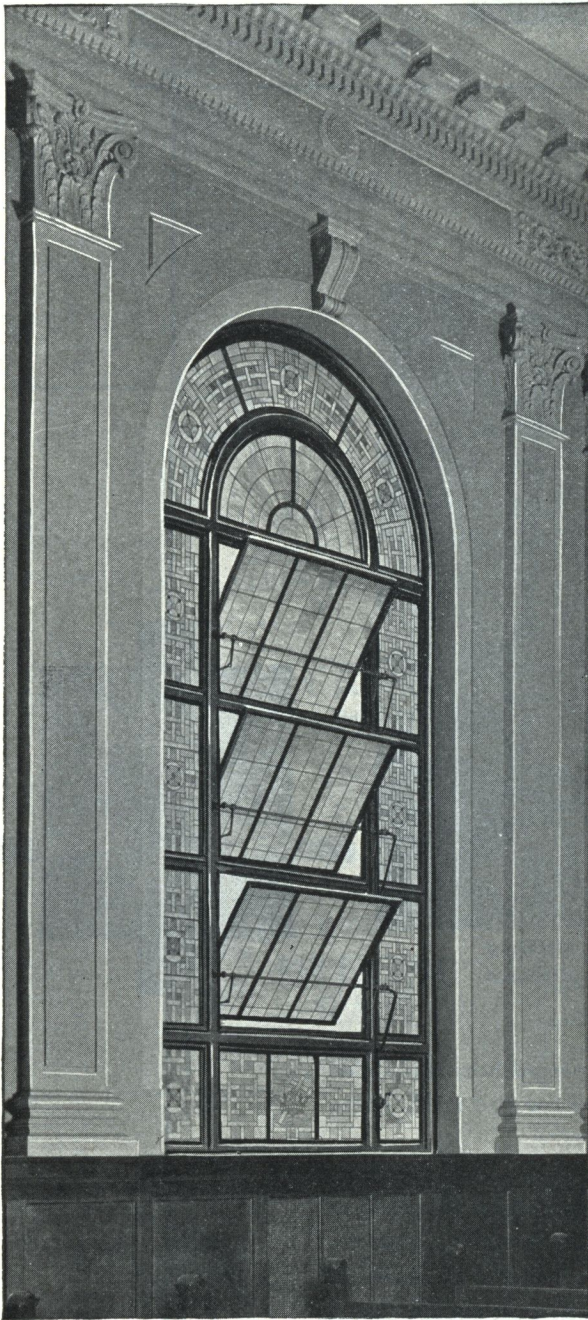
Dummy locks are not furnished unless specified.

A double-operating cremorne bolt may be used to operate from both sides of the door and to lock on the inside. This replaces the cylinder lock shown above. It is similar to our standard cremorne bolt except that it has a slight offset similar to a lock case.



UNIVERSAL CASEMENTS

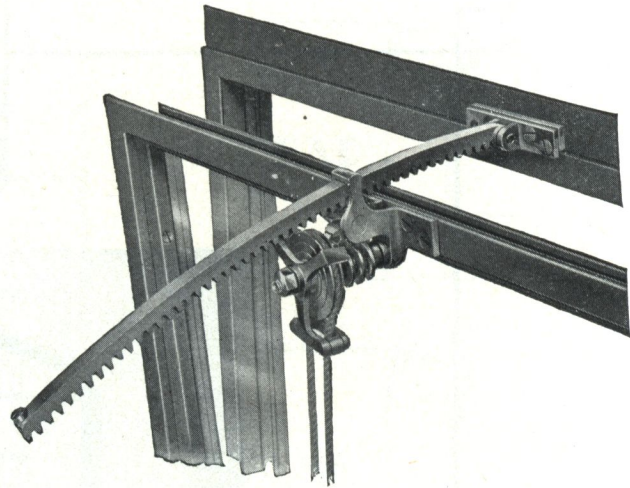
MECHANICAL OPERATING DEVICES



Third Church of Christ Scientist, Kansas City, Mo. Keene and Simpson, Architects

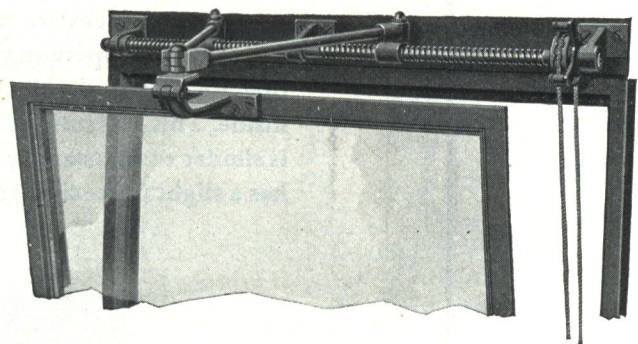
Crittall Rod Gearing

Rod gearing is designed to operate a number of transoms (preferably not over four) from one station. It may be used on any type of ventilating transom except side hinged. The arms and horizontal rods are painted iron. The down rod may be either iron or polished bronze as specified. The gear box and handle are always bronze. Supplied only when specified.



Crittall Rack Openers

Substantially made of solid bronze, this fitting is for the operation of individual transom units where the projecting arm is not objectionable. It is used on either bottom hinged in-opening or top hinged out-opening transoms. It is supplied only when specified.



Crittall Duplex Gearing

This fitting is for use on either bottom hinged in-opening or top hinged out-opening transoms, operating single units only. Supplied only when specified.

NORMAN CASEMENTS

The same "Standards of Materials and Workmanship" as set forth on page 17 for Crittall Universal Casements govern all work on Norman Casements

OUR GUARANTEE

We maintain an efficient corps of mechanics stationed at various sectional headquarters to enable us to erect our windows economically in almost any locality. We urge that architects insist on having the window manufacturer perform this work as it centralizes responsibility.

When we erect Norman Casements we guarantee them wind and water-tight to you and your client's satisfaction. We guarantee them weather-tight without weather strips of any kind.

GEO. G. SHEPHERD
GEO. G. SHEPHERD
Vice President

V. G. CRITTALL
V. G. CRITTALL
President

KARL F. JORSS
KARL F. JORSS
Vice President

This guarantee applies equally to inward and outward-opening types, even when installed in the most exposed positions.

When circumstances do not permit us to erect Norman Casements, we pledge ourselves to deal justly with our customers; to service our windows where possible without charge or at only nominal expense; and to interpret our responsibility in a liberal manner to the end that you and your clients may always be satisfied with our product and our service.

SPECIFICATIONS

WINDOWS: The printed general conditions and notice to bidders preceding the specifications must be referred to and shall control all portions of this work.

All work shall conform in all respects to the "Standards of Materials and Workmanship" published on page 17 of Crittall's catalogue in Sweet's 1930 edition.

All windows shall be Crittall Norman Casements as manufactured by the Crittall Casement Window Company, Detroit, Michigan. All windows shall be standard sizes and types as shown on architect's drawings. Shop drawings must be submitted for the architect's approval before starting fabrication. Casements shall be furnished complete with standard solid bronze hardware. Steel sections, including ventilating section and frame, but not including glass stops or subframes, shall weigh not less than 3.25 lbs. per lineal foot.

The casements shall be installed by the manufacturer. (If this is impractical, they can be set by local labor but care should be exercised to see that they are erected according to the manufacturer's instructions.) All joints between the steel sash and

the collateral construction are to be made tight with the use of Crittall Mastic Cement neatly pointed on the exterior.

Extras to be included if desired

1. Cleaning Hinges: Supply cleaning hinges on all outward-opening casements or supply cleaning hinges on all single outward-opening casements and, where required, in groups of odd numbers of sash.
2. All outward-opening casements shall have Win-Dor series No. 25 through the screen operators, of cadmium-plated steel with bronze handles (or all bronze).
3. The casements are to set directly into masonry. Supply continuous angle fin around the head and jams of all openings for making a perfect joint between sash and masonry.
4. Norman Casements are made with spring clips for putty glazing from the outside. If glass stops are required a steel angle stop may be specified applied only on the outside, set with oval head bronze screws.

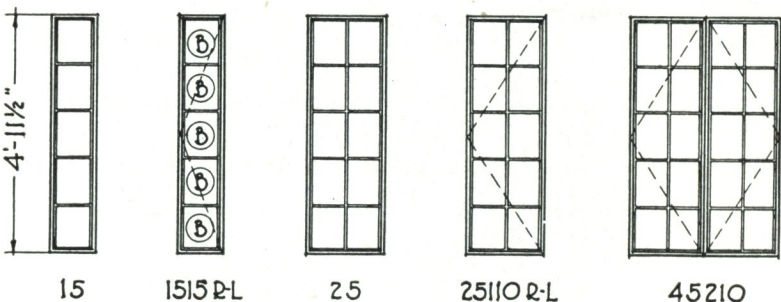
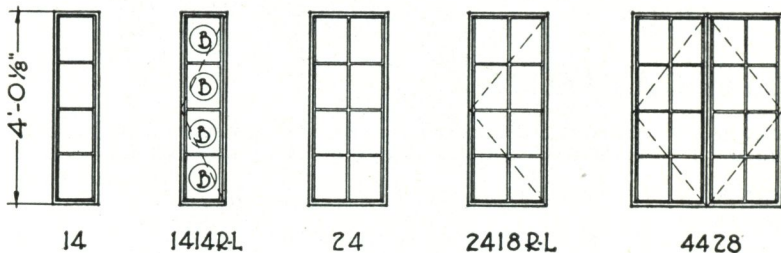
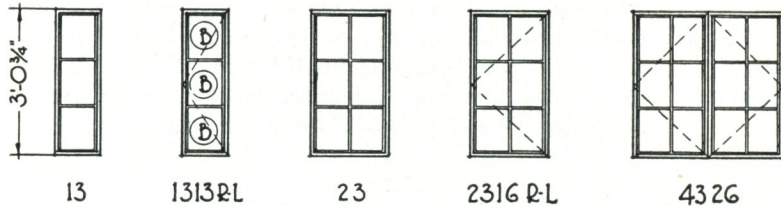
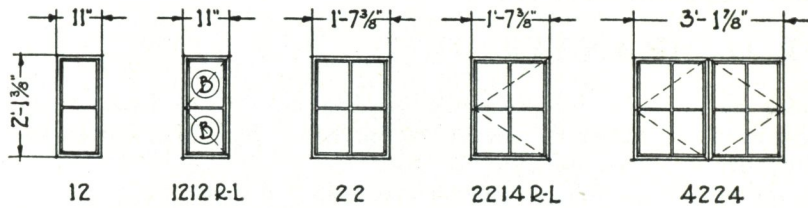
Holy Name of Jesus Church, Chickasba, Oklahoma

Harold Gimeno, Architect



NORMAN CASEMENTS

STANDARD TYPES AND SIZES



GENERAL NOTES

ALL TYPES MAY BE FURNISHED WITHOUT MUNTINS IN WHICH CASE THE LETTER "X" SHOULD PRECEDE THE TYPE NUMBER.

ALL VENTILATING TYPES MAY BE FURNISHED OPENING INWARD IN WHICH CASE THE LETTER "I" SHOULD PRECEDE THE TYPE NUMBER.

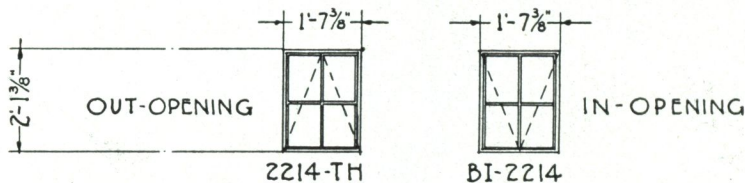
ALL HINGED AT SIDE SASH ARE MADE IN BOTH RIGHT AND LEFT HANDS. THE HAND OF A CASEMENT IS THE SIDE WHERE THE HINGES ARE LOCATED, VIEWED FROM THE OUTSIDE.

DIMENSIONS GIVEN ARE MASONRY SIZES 1/8" CLEARANCE HAS BEEN INCLUDED ALL FOUR SIDES. ACTUAL SASH SIZES ARE 1/4" LESS IN BOTH WIDTH AND HEIGHT

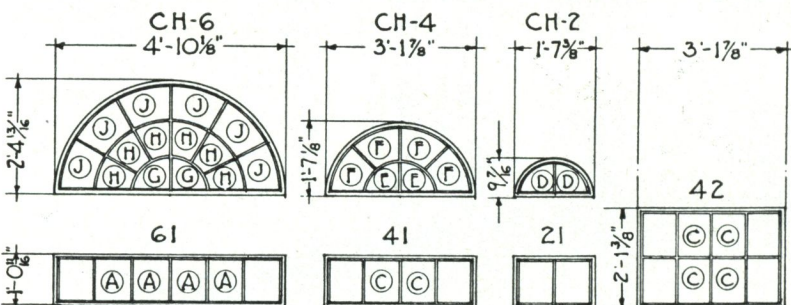
ACTUAL GLASS SIZES

NO ALLOWANCE NECESSARY FOR CUTTING. ALL LIGHTS ARE 8" x 11" EXCEPT THOSE MARKED OTHERWISE. LIGHTS MARKED "A" ARE - 9 5/8" x 11" LIGHTS MARKED "B" ARE - 7 7/8" x 11" LIGHTS MARKED "C" ARE - 9" x 11" LIGHTS MARKED "D" TO "J" INCLUSIVE SEE TEMPLATE

TOP AND BOTTOM HINGED TRANSOMS



STATIONARY TRANSOM TYPES

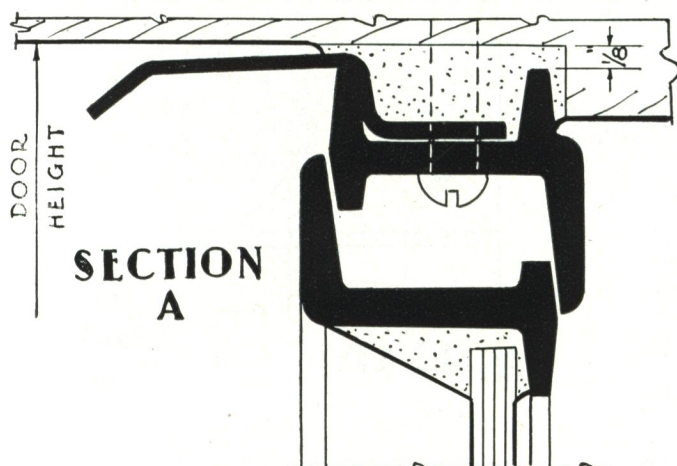


LEADED GLASS SIZES

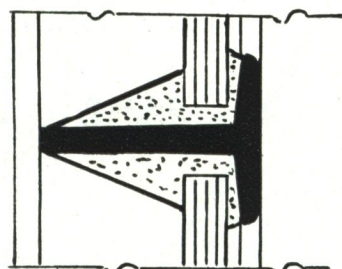
SASH TYPE	GLASS SIZE
12 AND 1212	7 7/8" x 1'-10 1/4"
13 AND 1313	7 7/8" x 2'-9 5/8"
14 AND 1414	7 7/8" x 3'-9"
15 AND 1515	7 7/8" x 4'-8 3/8"
2214TH AND BI2214	1'-4 1/4" x 1'-10 1/4"
22 AND 2214 AND 4224	1'-4 1/4" x 1'-10 1/4"
23 AND 2316 AND 4326	1'-4 1/4" x 2'-9 5/8"
24 AND 2418 AND 4428	1'-4 1/4" x 3'-9"
25 AND 25110 AND 45210	1'-4 1/4" x 4'-8 3/8"
21	1'-4 1/4" x 11"
41	2'-11 3/4" x 11"
61	4'-7 7/8" x 11"
CH2-CH4 AND CH6	SEE TEMPLATE

NORMAN CASEMENTS

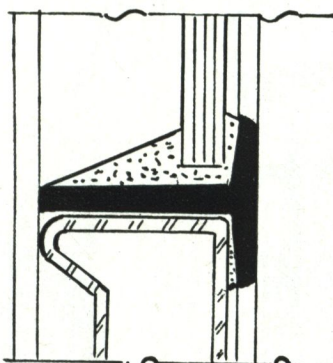
STANDARD NORMAN CASEMENT DOOR



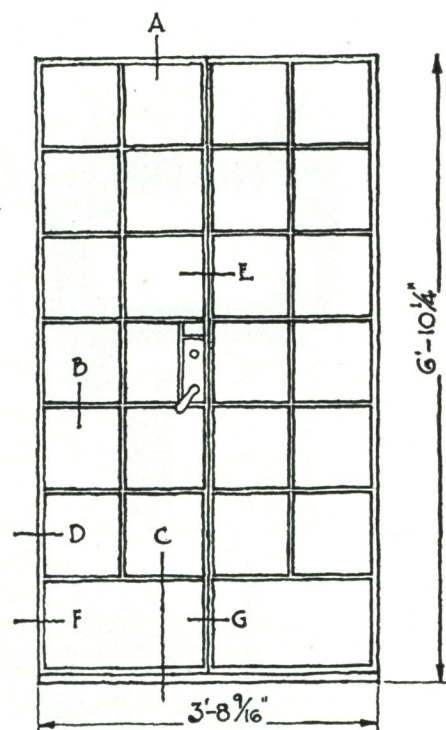
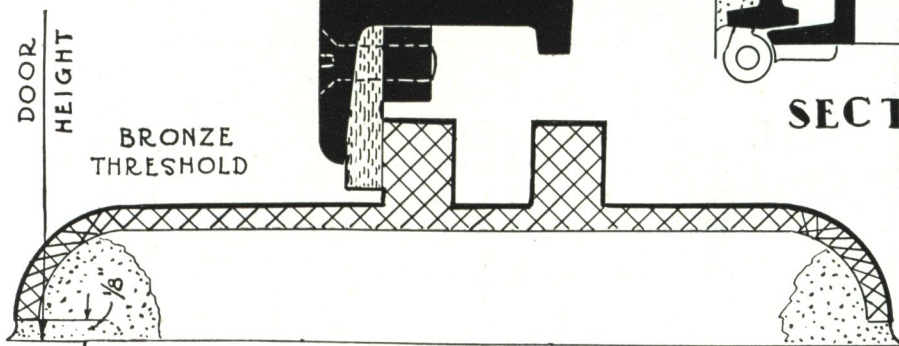
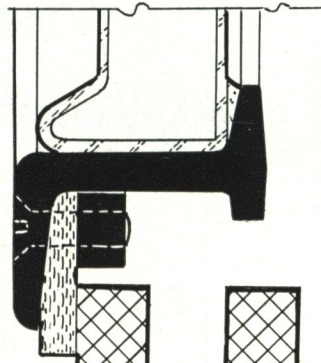
SECTION A



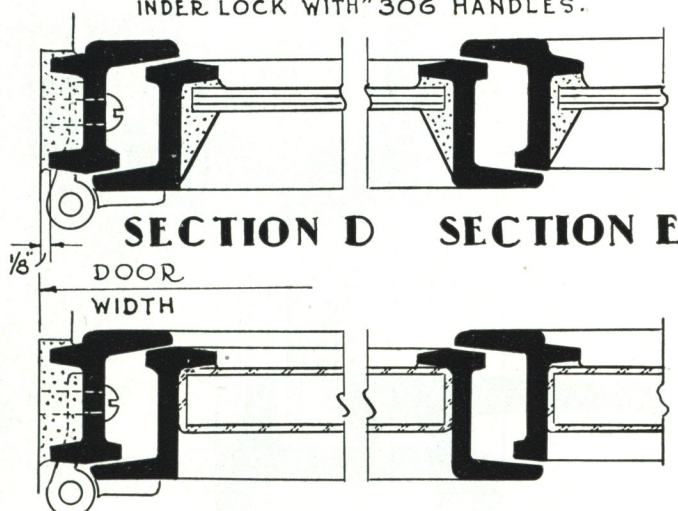
SECTION B



SECTION C



STANDARD NORMAN DOORS ARE MADE ONLY IN DOUBLE DOORS TO OPEN OUT. THEY ARE FITTED WITH STEEL T MUN-TINS, SOLID BRONZE THRESHOLDS, BRONZE TOP AND BOTTOM BOLTS DOUBLE THICK STEEL KICK PLATES AND CYLINDER LOCK WITH #306 HANDLES.



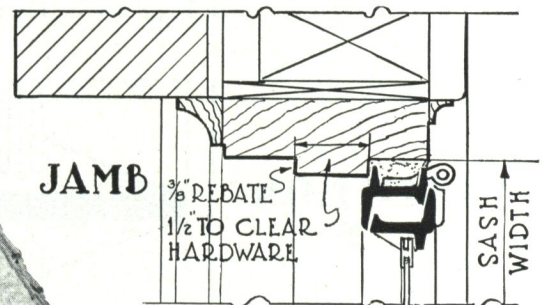
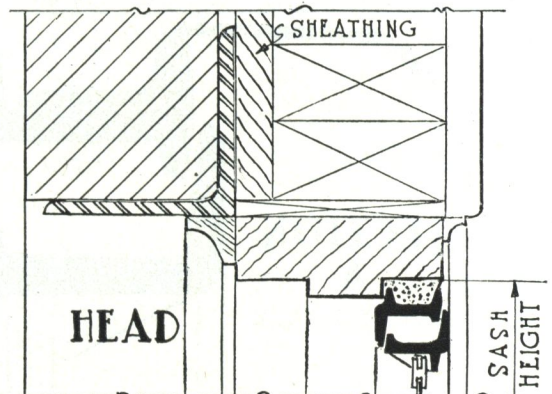
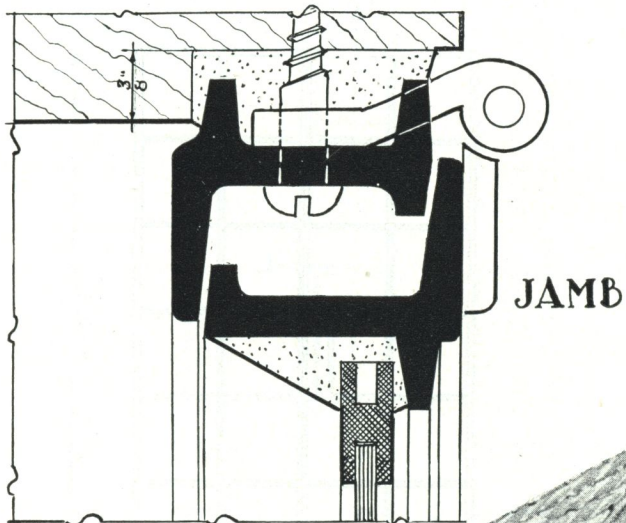
SECTION D SECTION E

SECTION F SECTION G

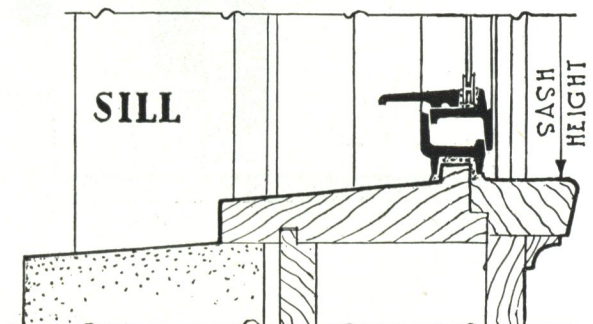
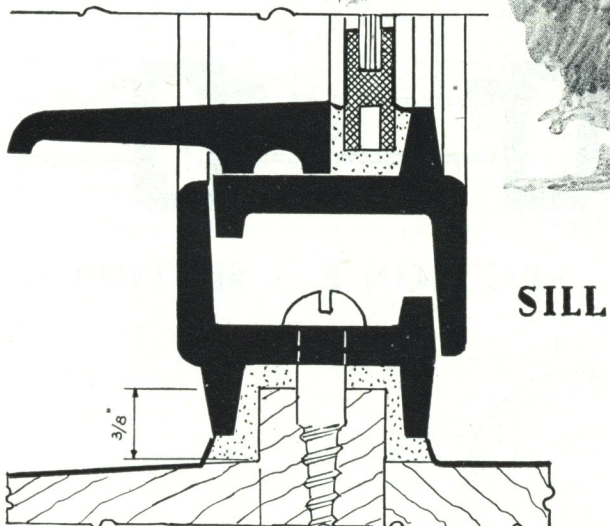
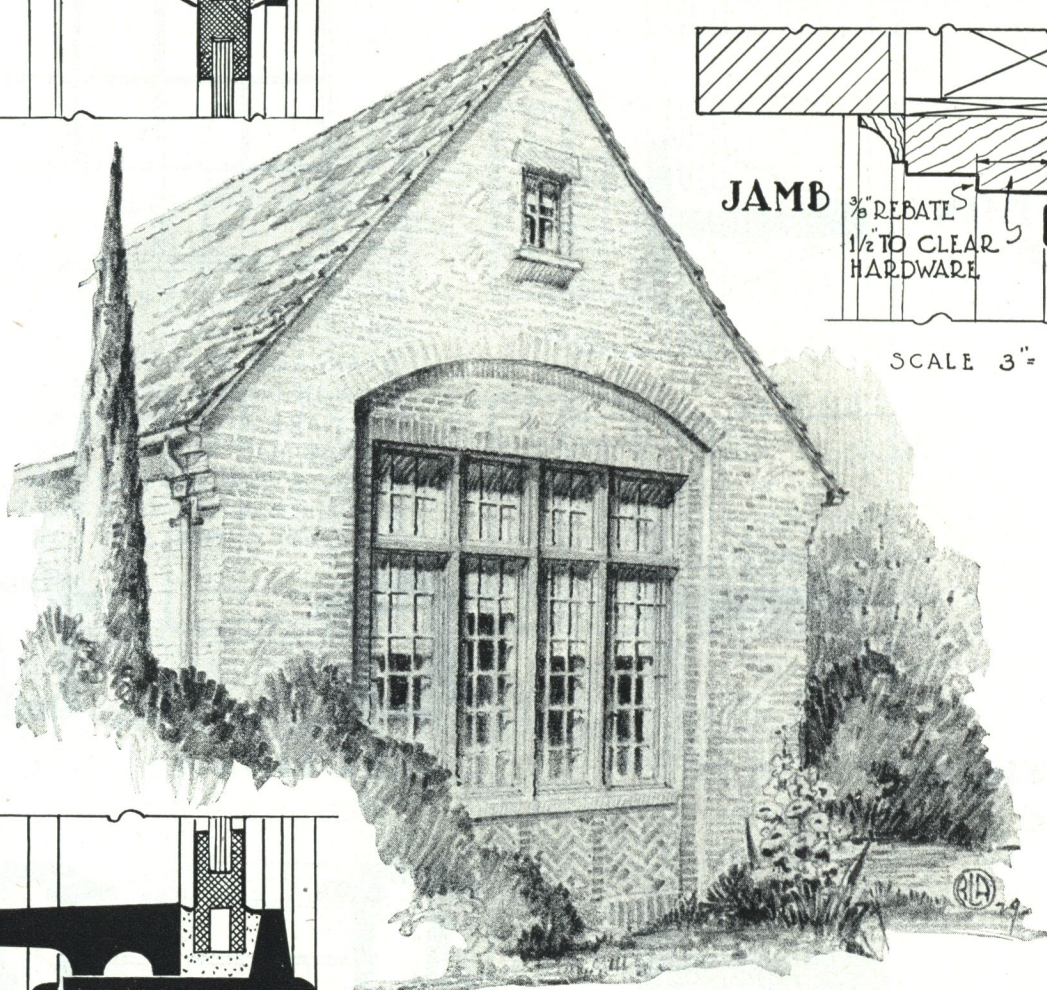
HALF FULL SIZE

NORMAN CASEMENTS

SIDE HINGED IN-OPENING CASEMENT DETAILS

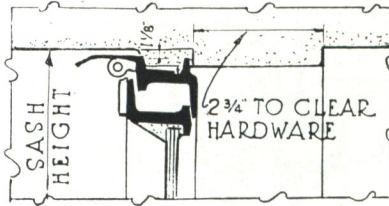


SCALE 3" = 1'-0"

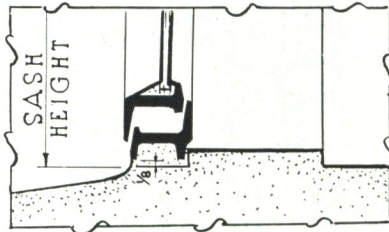
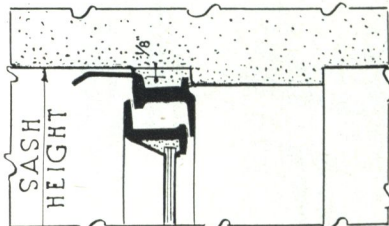
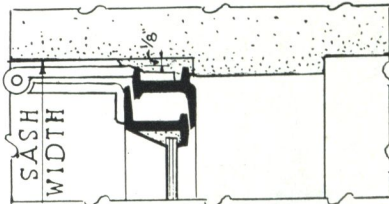
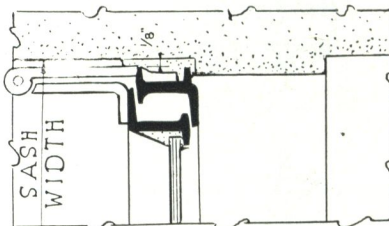
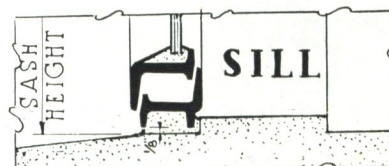
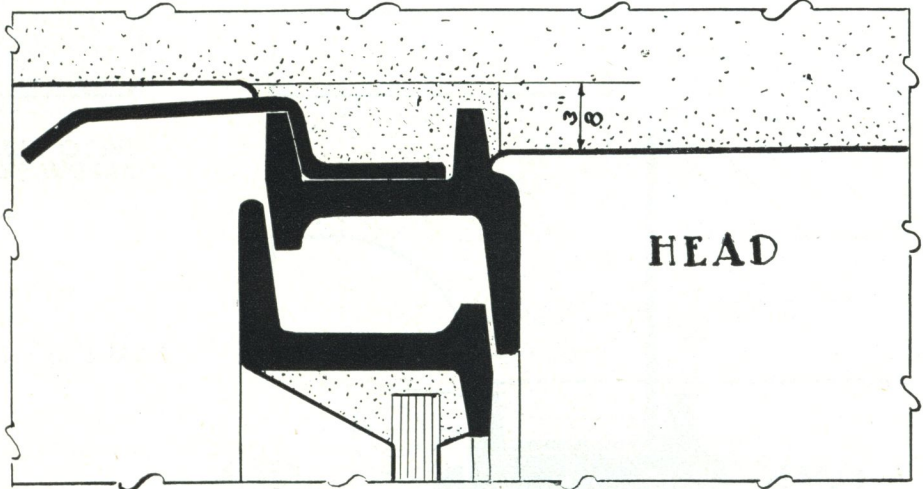
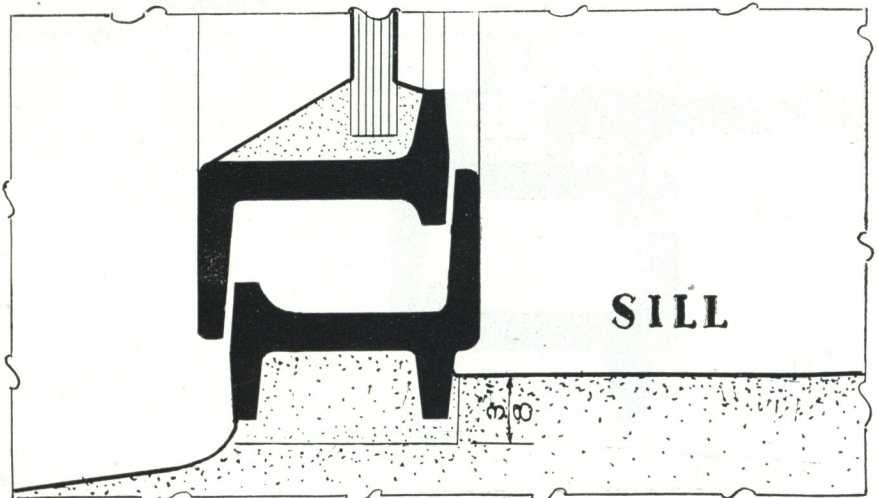
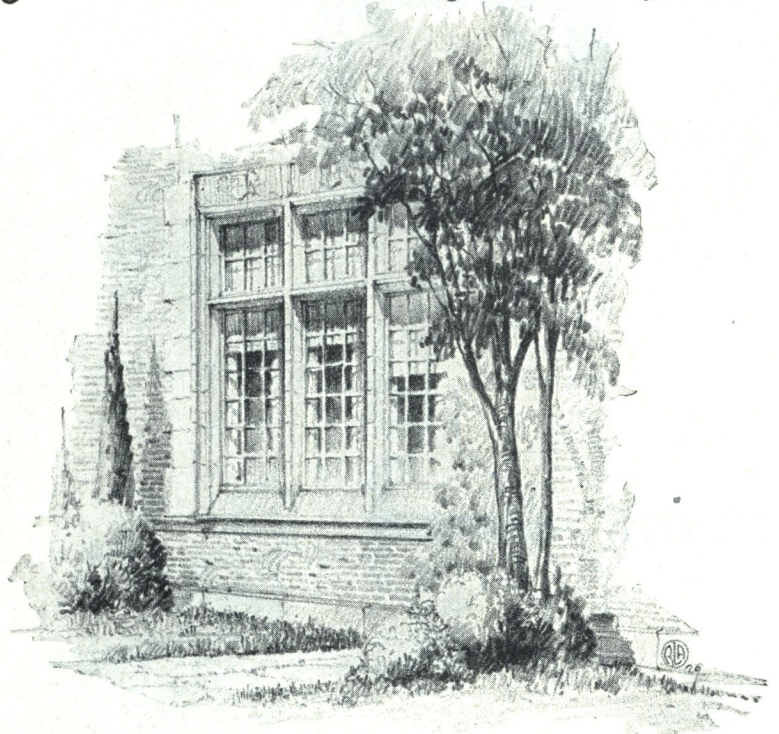


NORMAN CASEMENTS

SIDE HINGED OUT-OPENING CASEMENT DETAILS

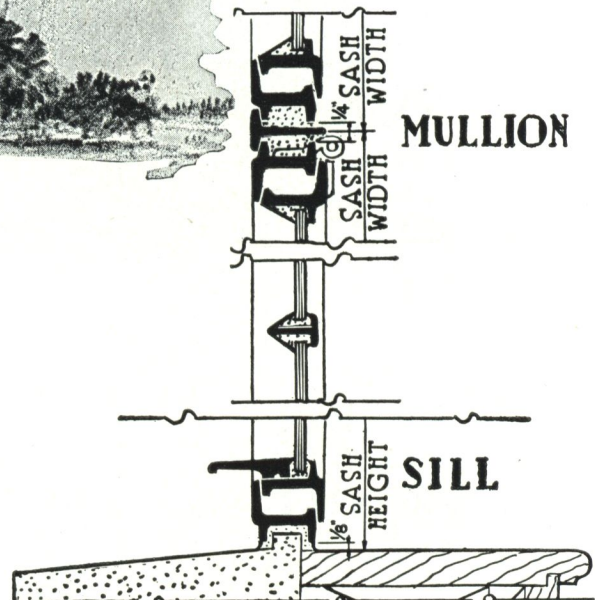
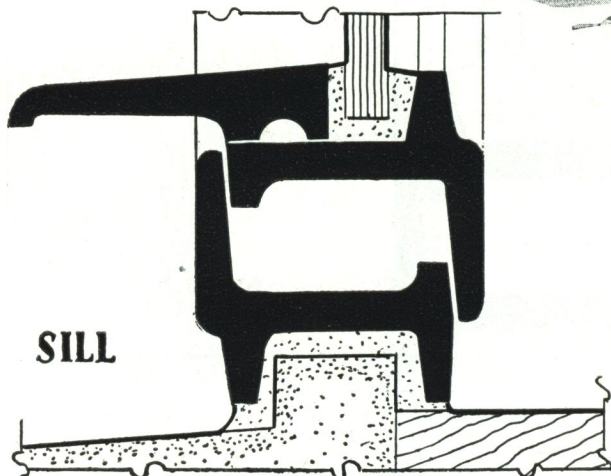
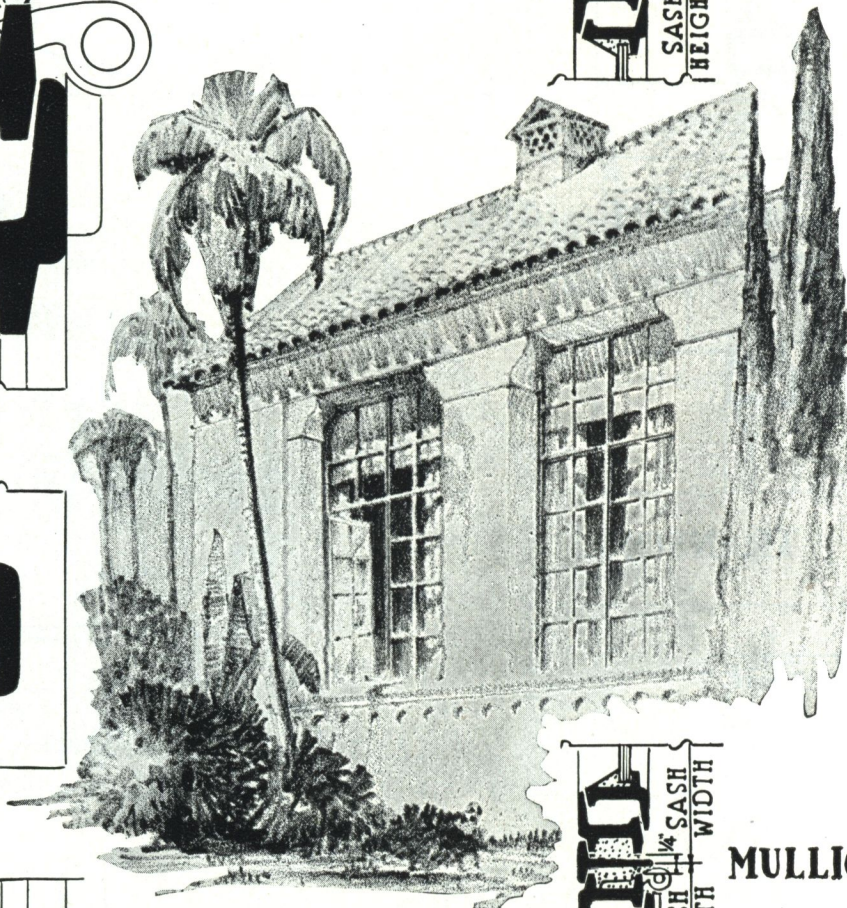
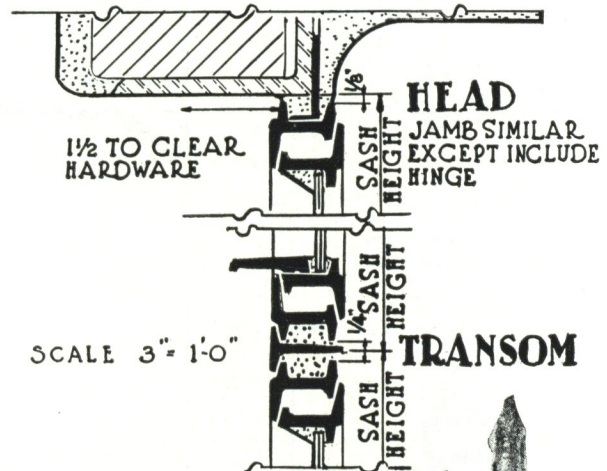
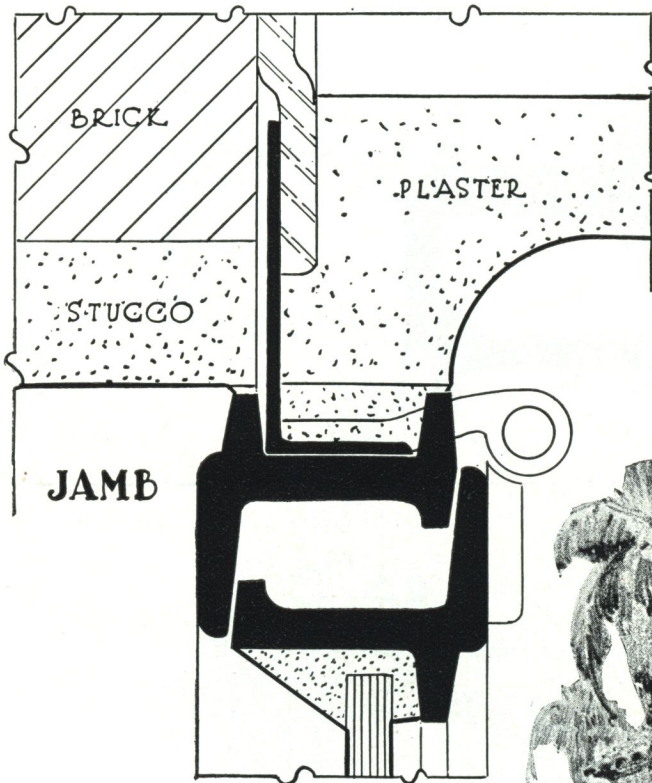
**HEAD**

SCALE 3" = 1'-0"

**TRANSOM****TRANSOM****JAMB****MULLION****SILL****HEAD****SILL**

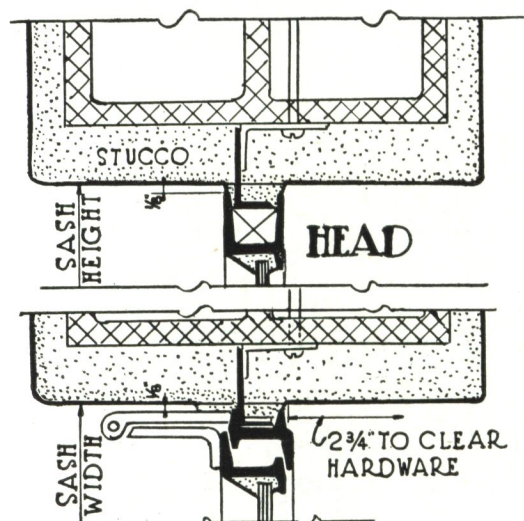
NORMAN CASEMENTS

SIDE HINGED IN-OPENING CASEMENT DETAILS

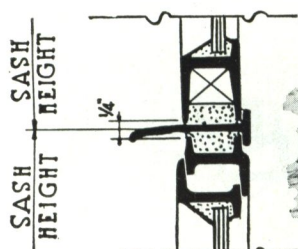


NORMAN CASEMENTS

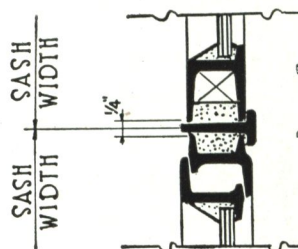
SIDE HINGED OUT-OPENING CASEMENT DETAILS



JAMB

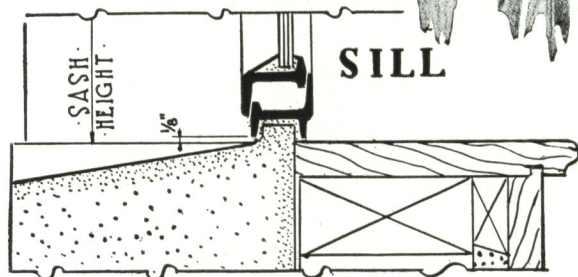


TRANSOM

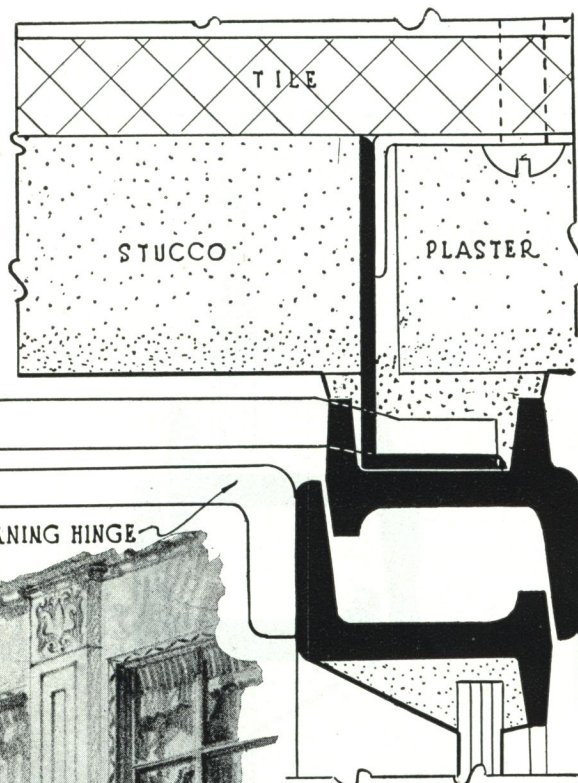


MULLION

SCALE 3" = 1'-0"



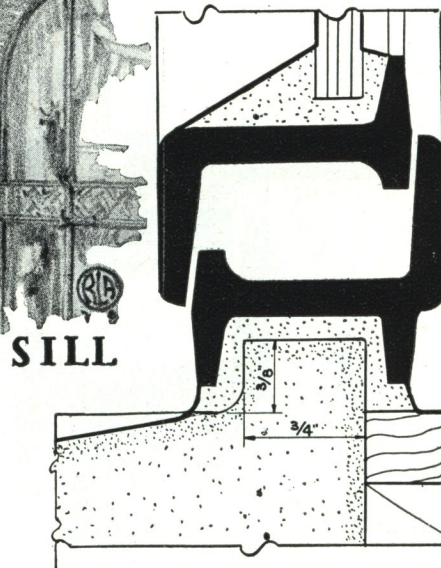
SILL



JAMB

HEAD SIMILAR EXCEPT OMIT HINGE AND INCLUDE DRIP.

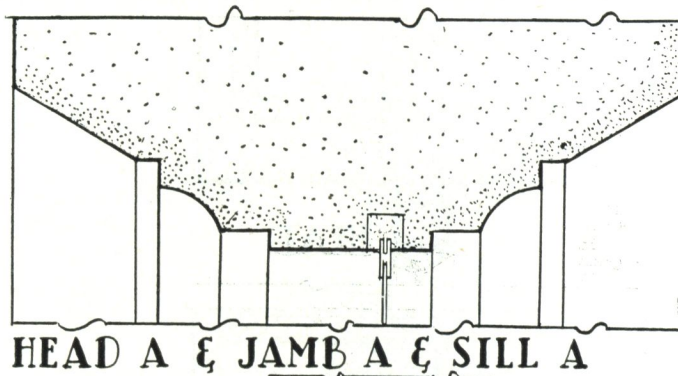
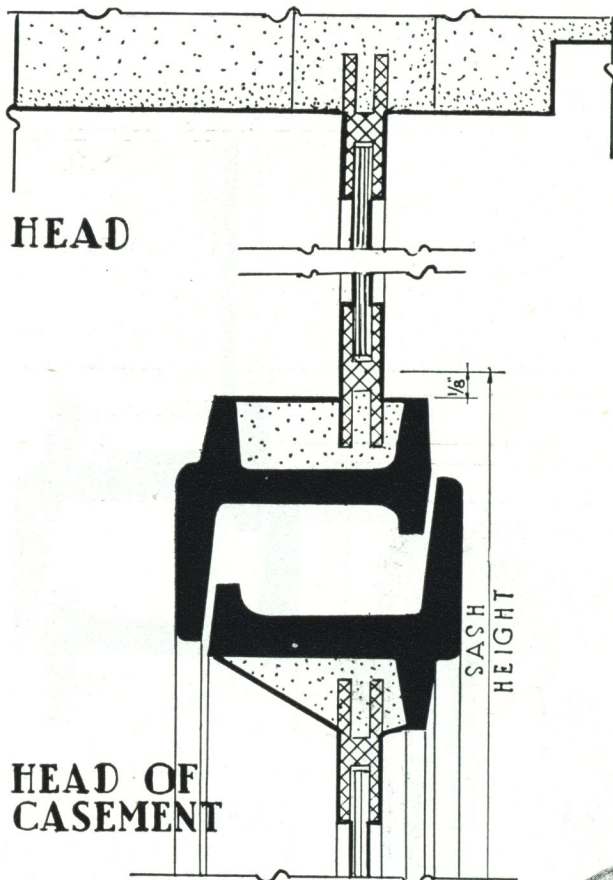
NOTE: STATIONARY SASH IN SPECIAL SIZES CAN BE COMBINED WITH STANDARD SIZES OF VENTILATING UNITS TO COMPOSE A USEFUL OPENING FOR A COMMERCIAL BLDG. THE EXTRA-COST FOR SPECIAL STATIONARY SASH IS TRIVIAL.



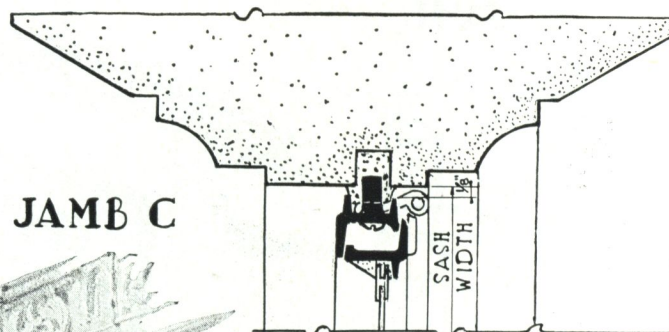
SILL

NORMAN CASEMENTS

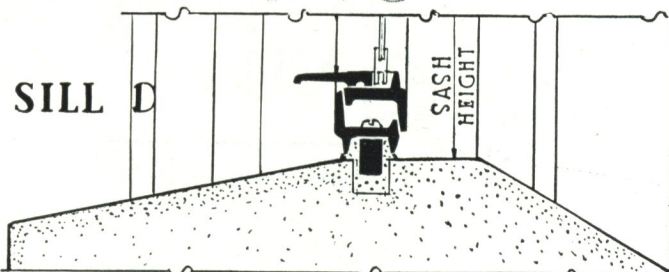
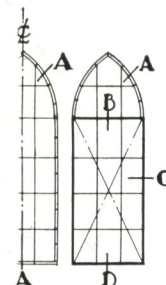
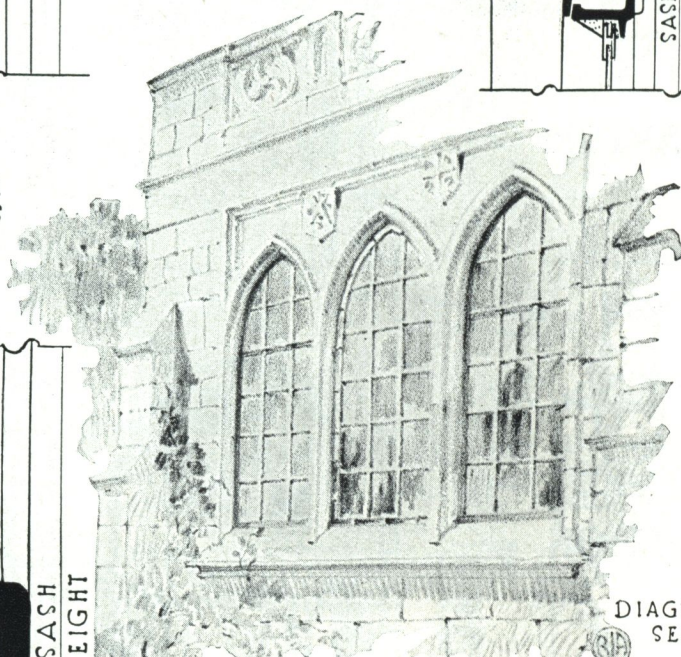
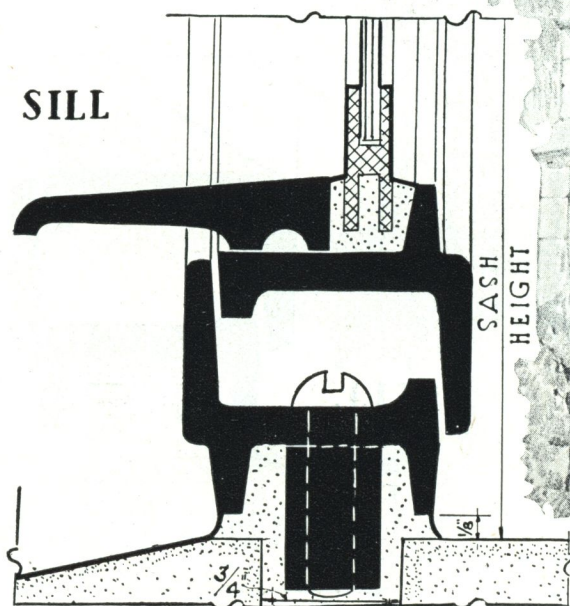
SIDE HINGED IN-OPENING CASEMENT DETAILS



HEAD B OF CASEMENT

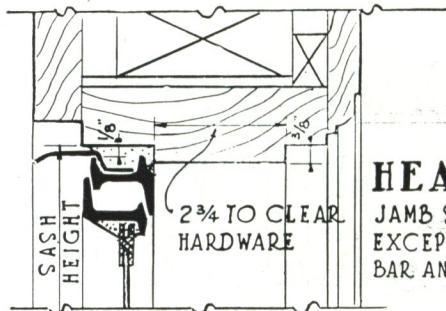


NOTE: THESE DETAILS CAN ALSO BE USED FOR OUT OPENING CASEMENTS

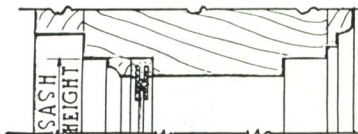


NORMAN CASEMENTS

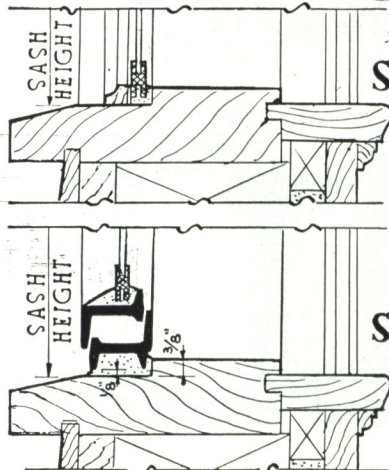
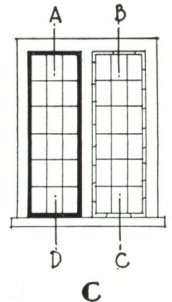
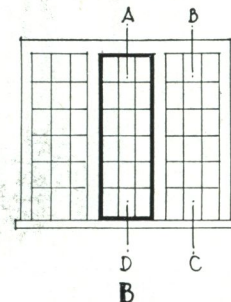
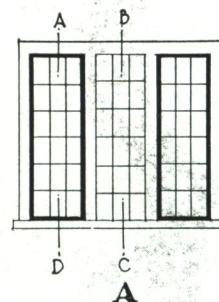
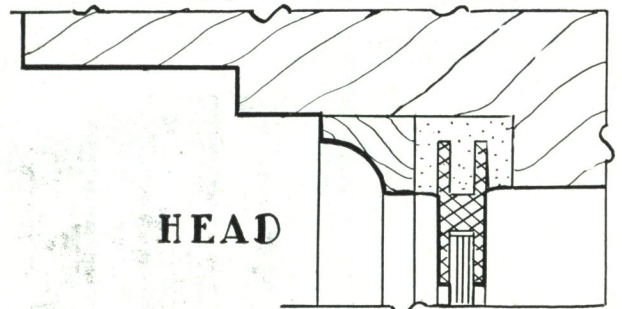
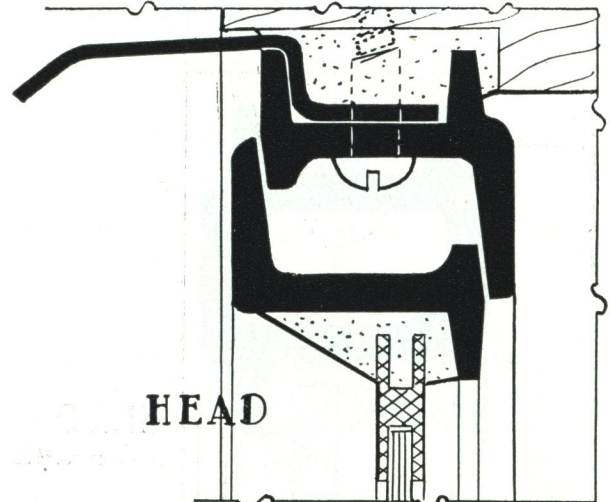
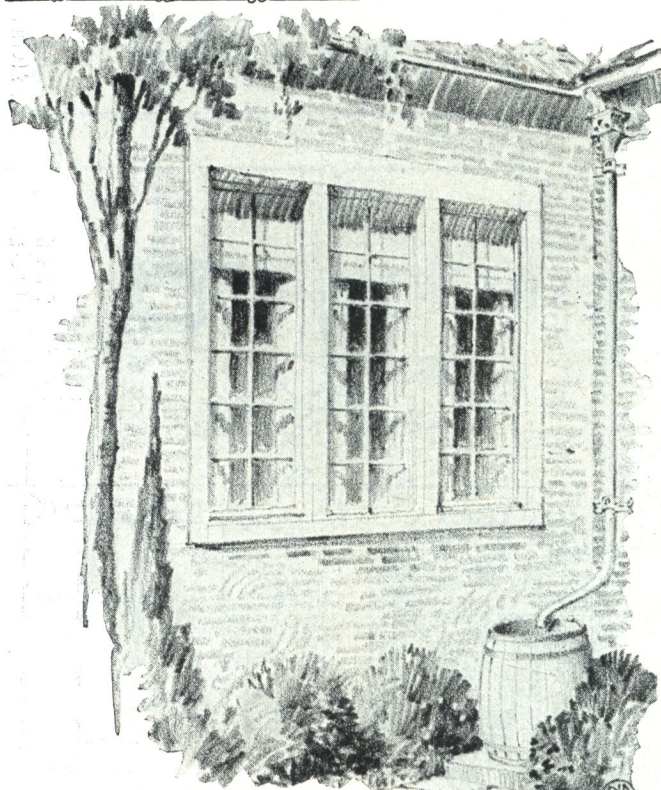
SIDE HINGED OUT-OPENING CASEMENT DETAILS



HEAD A
JAMB SIMILAR
EXCEPT OMIT WEATHER
BAR AND INCLUDE HINGE.



HEAD B
JAMB SIMILAR

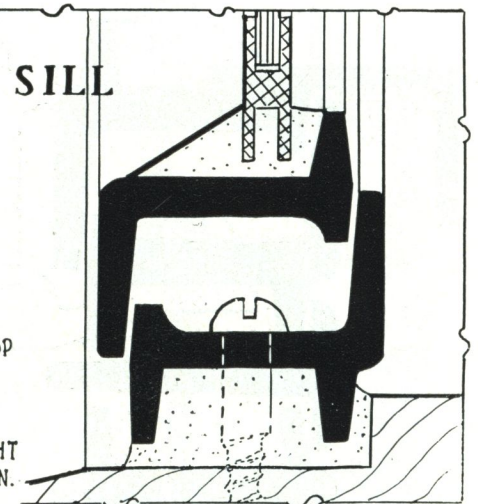


SILL C

SILL D

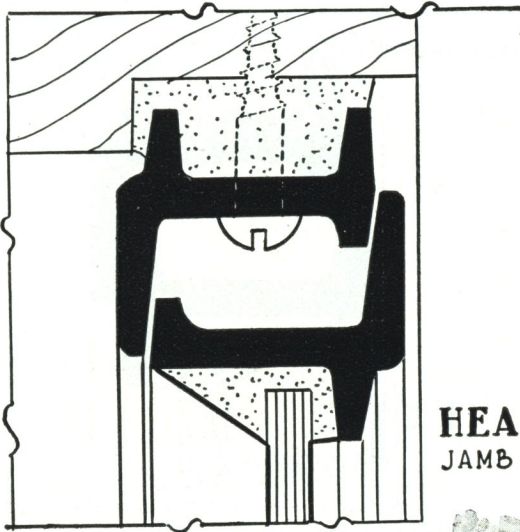
STATIONARY LEADED GLASS GLAZED DIRECTLY INTO WOOD FRAMES IS EXCELLENT PRACTICE AT TIMES. THREE METHODS ARE CUSTOMARY TO EQUALIZE PANES WHERE SASH OCCUR AND WHERE NO. SASH ARE USED. METHOD "A" DIVIDES EACH UNIT INTO EQUAL PANES AND CONSEQUENTLY THE HORIZONTAL CAMES DO NOT LINE UP. "B" LINES UP THE HORIZONTAL CAMES AND LEAVES THE TOP & BOTTOM PANES OF UNEVEN HEIGHTS. "C" IS USED IN ORNAMENTAL WINDOWS. A MARGINAL PANE IS USED EQUAL IN SIGHT LINE TO THE CASEMENT SECTION.

SILL

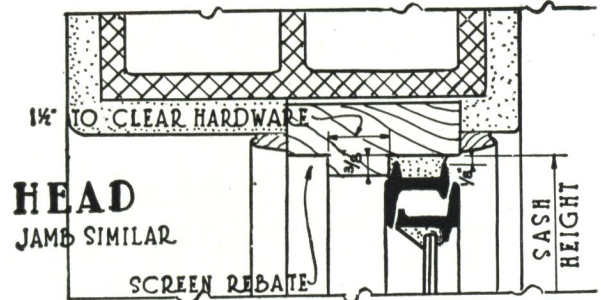


NORMAN CASEMENTS

BOTTOM HINGED IN-OPENING CASEMENT DETAILS

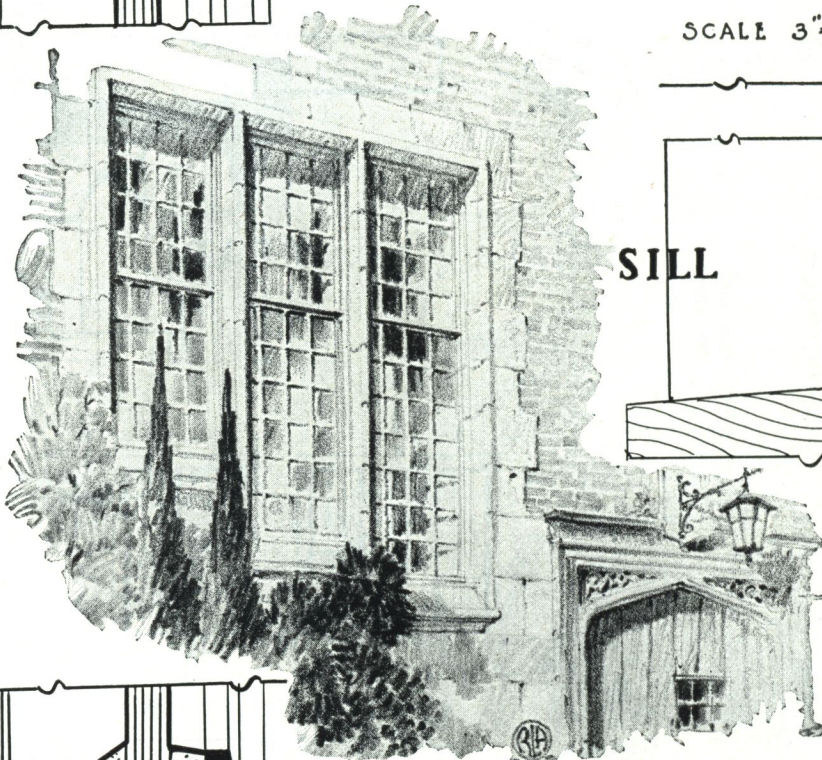
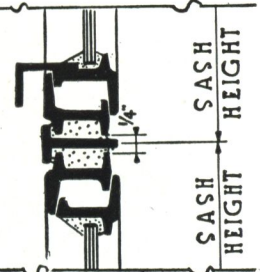


HEAD
JAMB SIMILAR

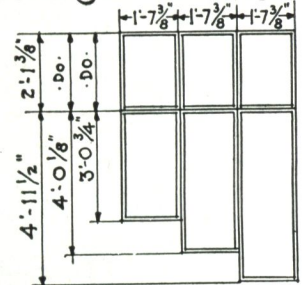
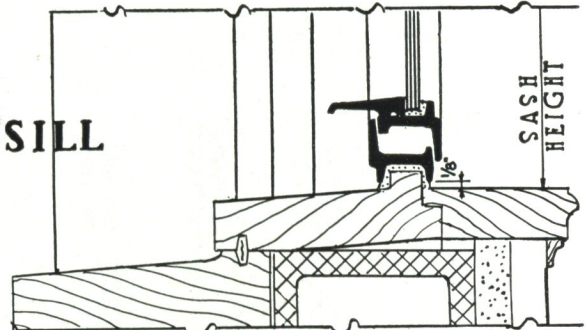


TRANSOM

SCALE 3" = 1'-0"



SILL

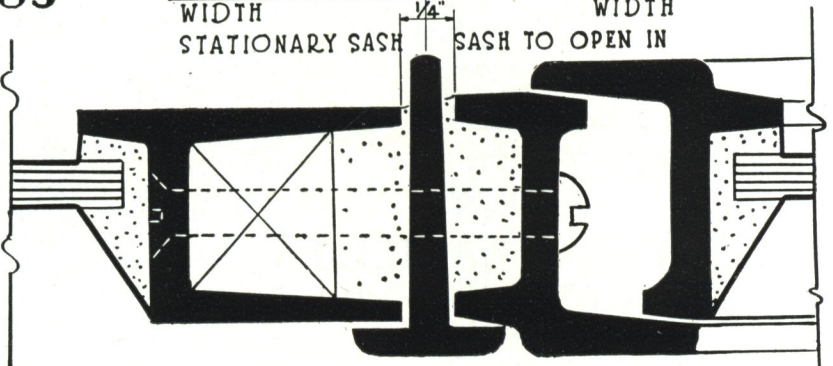
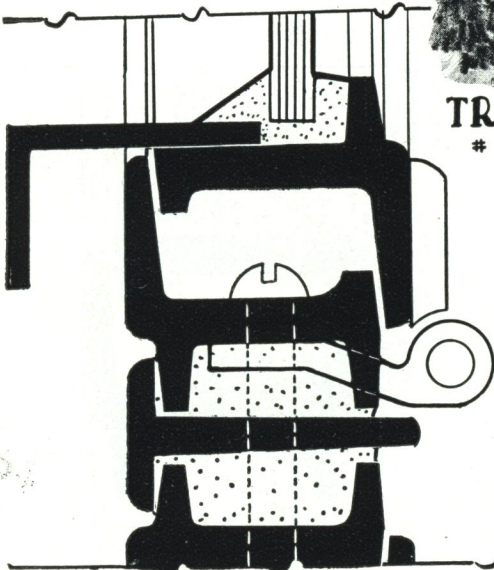


TRANSOM
103

STEEL MULLION #103

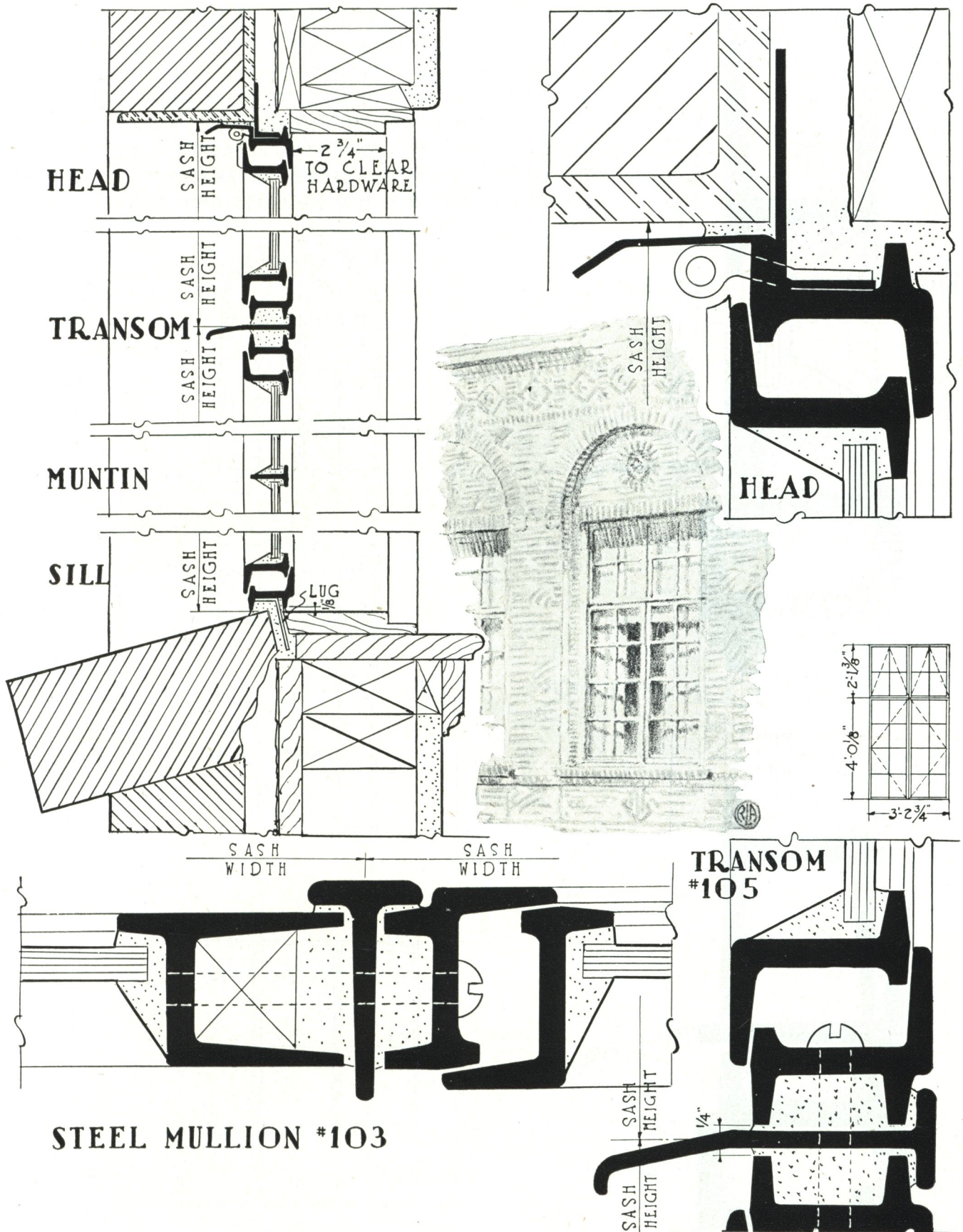
SASH
WIDTH
STATIONARY SASH

SASH
WIDTH
SASH TO OPEN IN



NORMAN CASEMENTS

TOP HINGED OUT-OPENING CASEMENT DETAILS

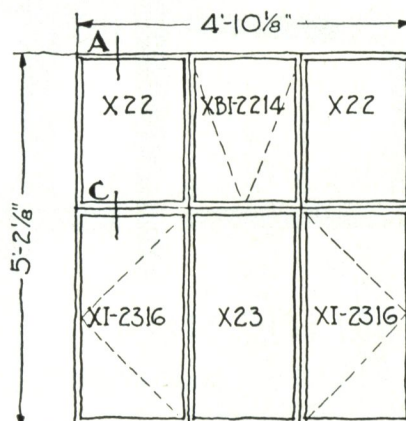
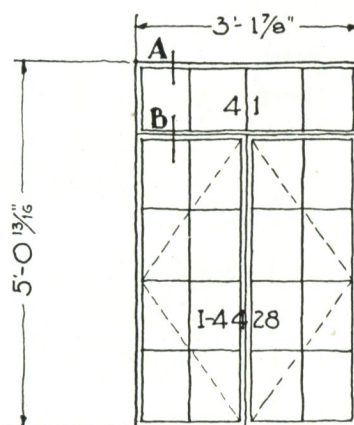
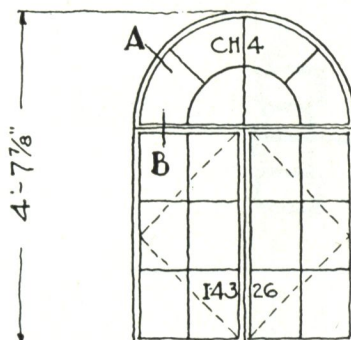
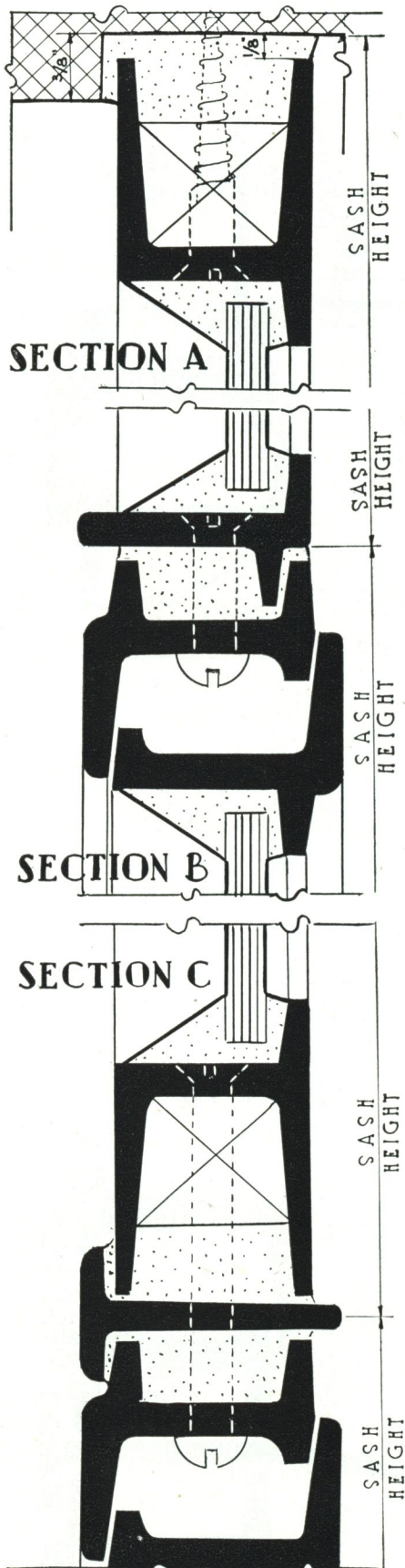


NORMAN CASEMENTS

FIXED TRANSOM DETAILS OVER OPEN IN CASEMENTS

OPENING SIZES

THE SIZES GIVEN ON PAGE 40 INCLUDE $\frac{1}{8}$ INCH CLEARANCE ALL AROUND. ACTUAL SASH SIZES ARE $\frac{1}{4}$ INCH LESS IN WIDTH AND HEIGHT. TO COMPUTE MASONRY SIZES WHEN STEEL MULLIONS AND TRANSOM BARS ARE USED, ADD THE HEIGHTS OF THE RESPECTIVE SASH USED, AS GIVEN ON PAGE 40 AND ADD WIDTHS; THE SUMS WILL BE THE RESPECTIVE HEIGHT AND WIDTH OF THE OPENING. DO NOT ADD ANYTHING FOR MULLIONS AND TRANSOM BARS.

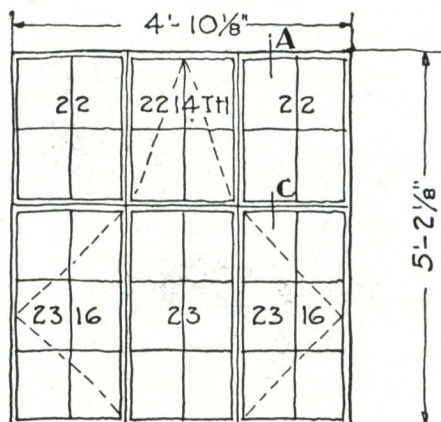
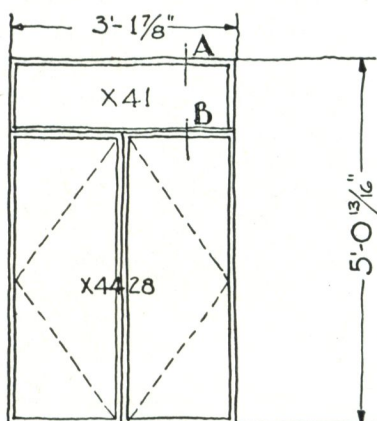
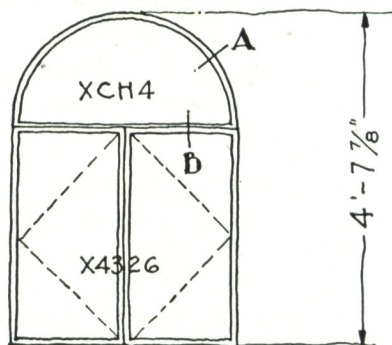


NORMAN CASEMENTS

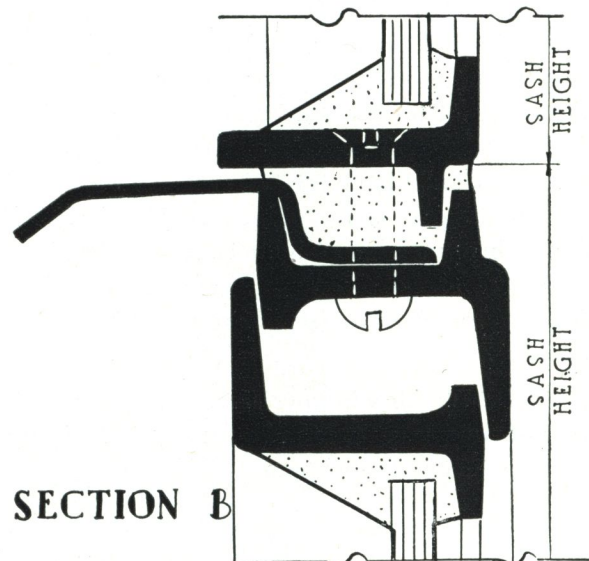
FIXED TRANSOM DETAIL OVER OPEN OUT CASEMENTS

OPENING SIZES

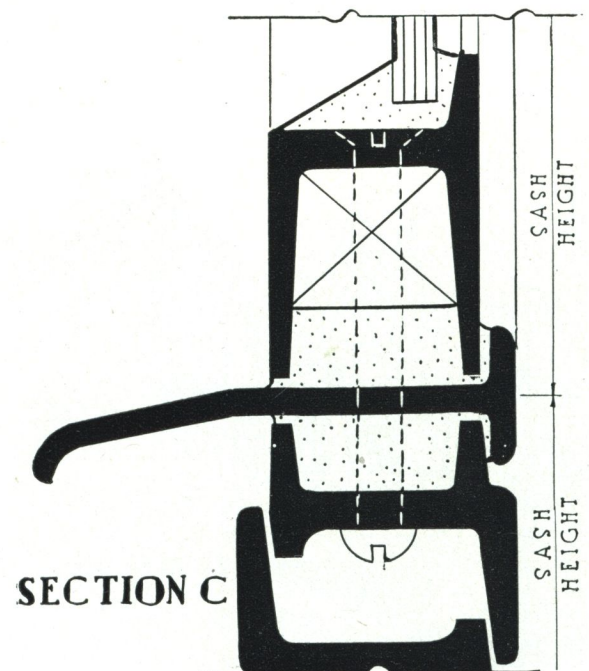
IF TYPES CH2-CH4-CH6-21-41 AND G1 ARE USED ALONE OR SET INTO WOOD TRANSOM BARS $\frac{5}{8}$ INCH MUST BE ADDED TO THE HEIGHTS GIVEN ON PAGE 40 TO GIVE SASH OPENING HEIGHT. A DEDUCTION FROM ACTUAL SASH HEIGHT HAS BEEN MADE IN GIVING SIZES OF THESE TYPES ON PAGE 40 TO ALLOW FOR SINKAGE INTO TOP OF SASH BELOW (SEE DETAIL "B" ON PAGES 50 AND 51). WHEN THESE TYPES ARE JOINED DIRECTLY TO THE OTHER SASH, FOLLOW RULE ON PAGE 50.



SECTION A



SECTION B



SECTION C

STANWIN CASEMENTS

SPECIFICATIONS

WINDOWS: Steel Casement Windows shall be Stanwin Casements in standard sizes and types as furnished by the Crittall Casement Window Company, Detroit, Michigan. They shall be constructed of special solid rolled steel casement bars of Zee bar section. The stationary frame member shall weigh not less than .95 lbs. per lineal foot while the swinging leaf section shall weigh not less than 1.20 lbs. per lineal foot. The muntins shall be interlocked at the intersections and riveted into the frame members.

HARDWARE: All side hinged sash shall be hung on cleaning hinges. Hinge leaves shall be of solid rolled steel, riveted to the frames. They shall have bronze pins and be bronze bushed. Side hinged sash shall be fitted with drop-forged bronze casement handles bolted to the handle plate. The striking plates shall be of bronze. Sill adjusters shall be sliding stays with bronze guides, slide bars, and thumb screws.

Top hinged sash shall be equipped with drop-forged bronze peg stays bolted to attachment brackets.

Note: Through-the-screen operators can be furnished in lieu of standard design sliding sill adjusters at additional cost.

PAINTING: All windows shall receive one priming coat of anti-rust primer and a second coat of gray zinc oxide paint before shipment.

GLAZING: All windows shall be glazed with (state if double strength or $\frac{1}{4}$ " thick plate glass or leaded) glass set in special steel sash putty and secured with spring glazing clips.

ERECTION: The window manufacturer shall furnish the necessary lugs, screws, and mastic cement for setting casements. All windows shall be set plumb, square and true, properly aligned, securely anchored, and adjusted before glazing.

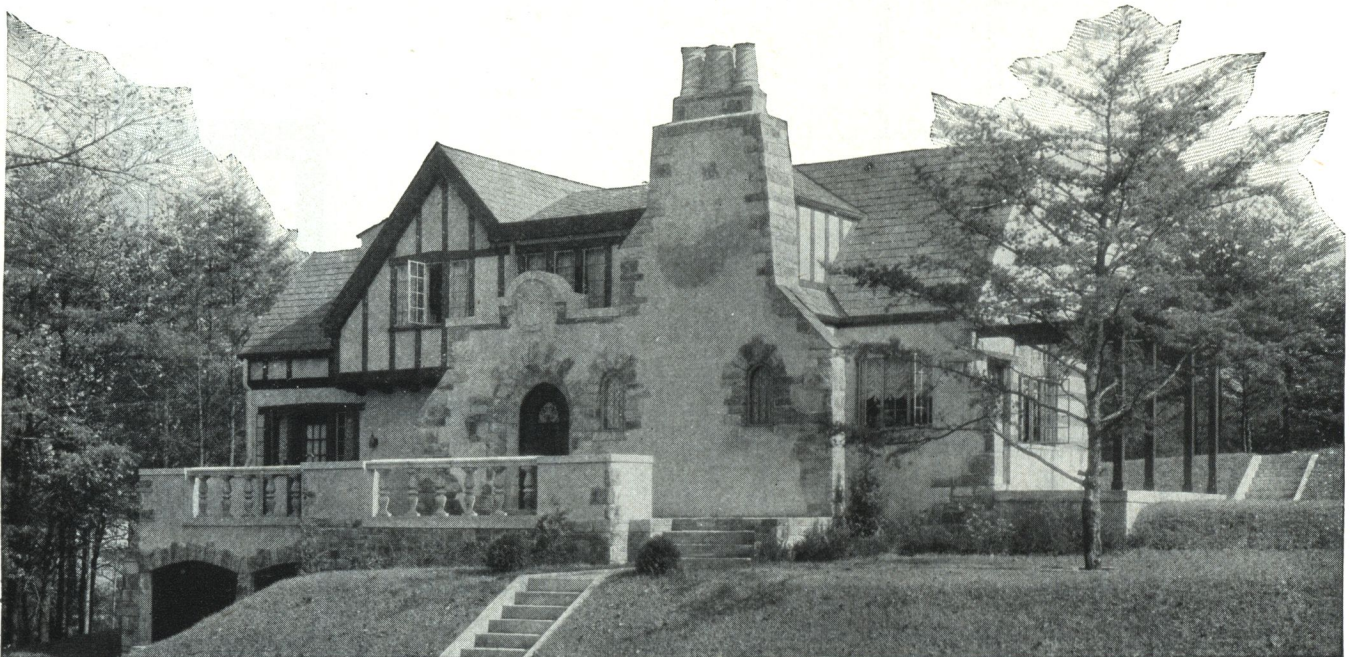
Windows shall be set and bedded in mastic. (When desired the Crittall Casement Window Company will erect and caulk casement windows in prepared openings.)

CONTINUOUS FINS: If continuous steel jamb and head fins are to be furnished be sure to so state.

DOORS: All exterior and interior doors in (state here location of doors) shall be Stanwin Doors in standard sizes.

They shall be of medium weight casement sections hung on solid bronze hinges. They shall be fitted with a key lock, bronze lever handles operating from both sides, bronze sliding top and bottom bolts on each leaf, cabin hooks, steel kick plate, and bronze threshold. They shall be furnished and erected with the windows.

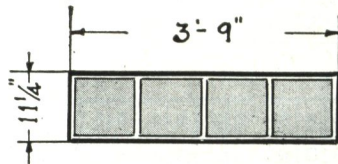
Residence of James E. Cooper, Esq., Washington, D. C., Owner and Architect



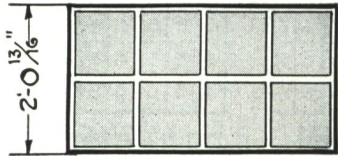
STANWIN CASEMENTS

CASEMENT DOORS IN STANDARD TYPES & SIZES

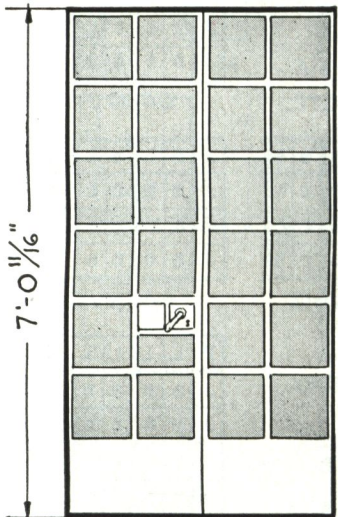
UNITS CARRIED AS WAREHOUSE STOCK SHOWN WITH SHADED BACKGROUND



DAF1



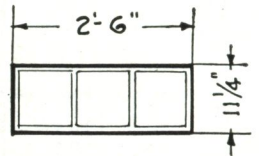
DAF2



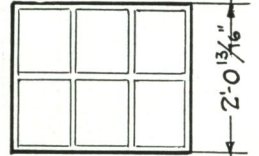
DA



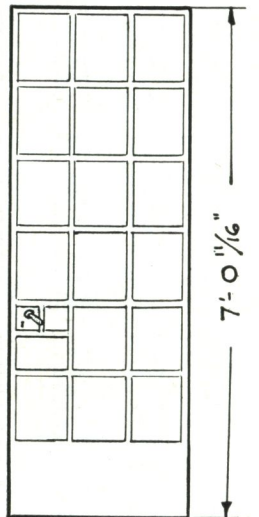
RESIDENCE - WASHINGTON D.C.
GEORGE M. RAY - ARCHITECT



DAS1



DAS2

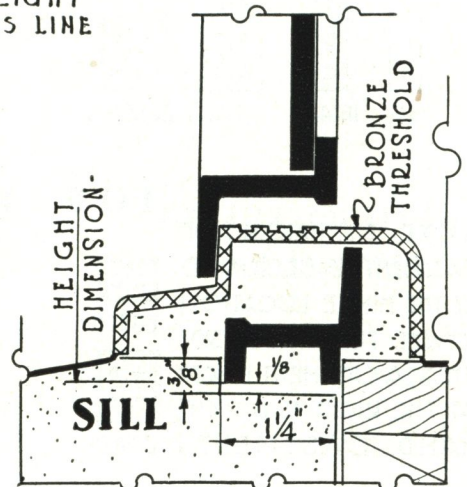
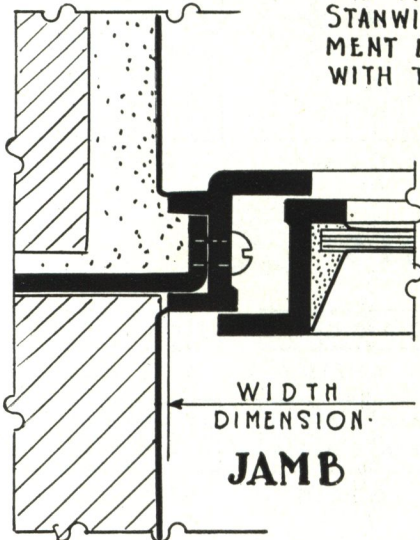


DAS

STANWIN CASEMENT DOORS (OPENING OUT) AND TRANSOMS (STATIONARY) HARMONIZE WITH STANWIN CASEMENTS. ANY STANDARD CASEMENT UNIT MAY BE USED AS A SIDELIGHT WITH THESE DOORS, AS THE MUNTINS LINE UP HORIZONTALLY. THE

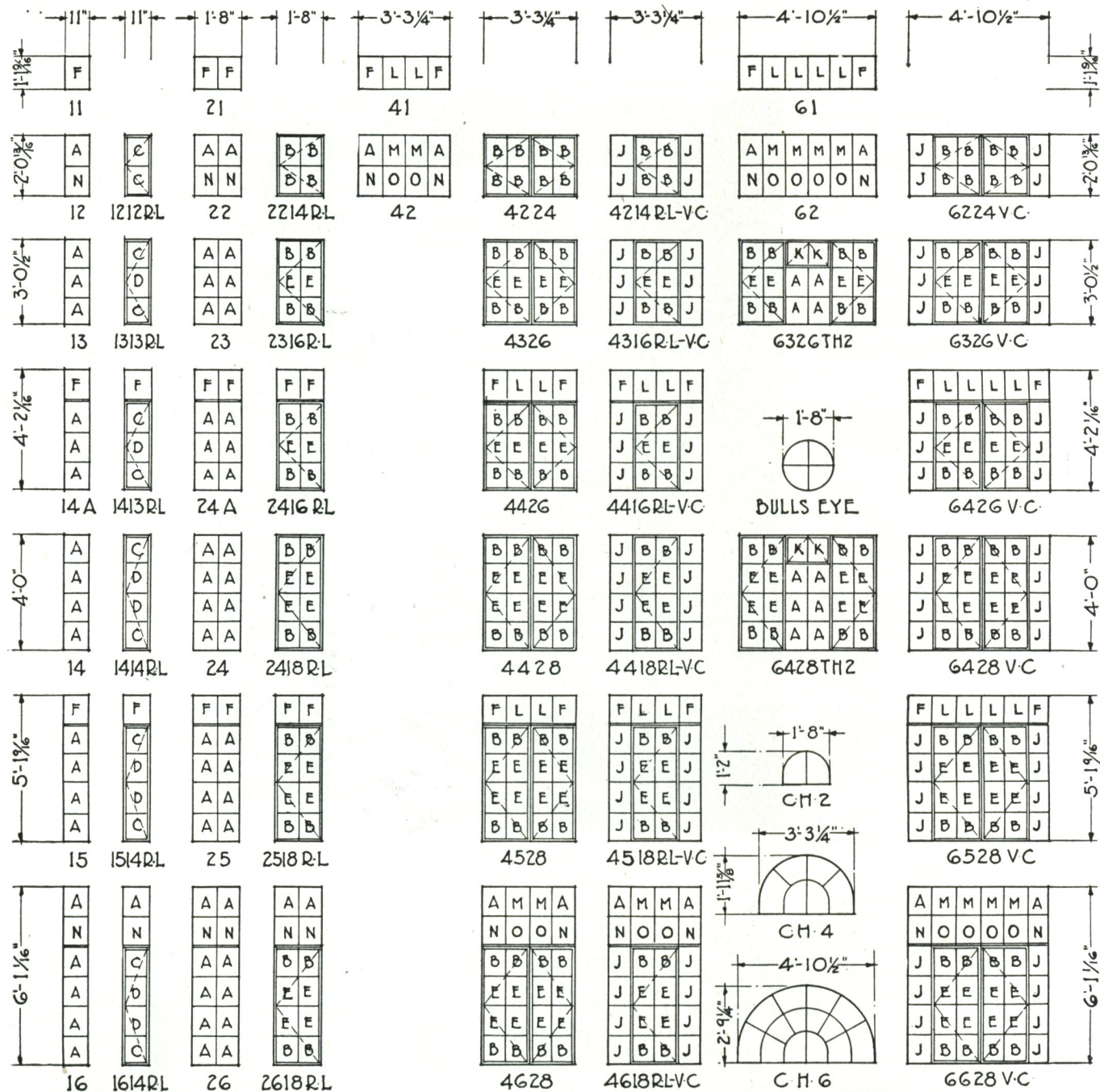
DOORS ARE MADE OF MEDIUM WEIGHT CASEMENT SECTIONS. THEY ARE HUNG ON BRONZE HINGES, AND ARE FITTED WITH LOCK, BRONZE HANDLES OPERATING FROM BOTH SIDES, BRONZE TOP & BOTTOM BOLTS, BRONZE THRESHOLD AND STEEL KICK PLATES.

SCALE OF DETAILS
= HALF FULL SIZE



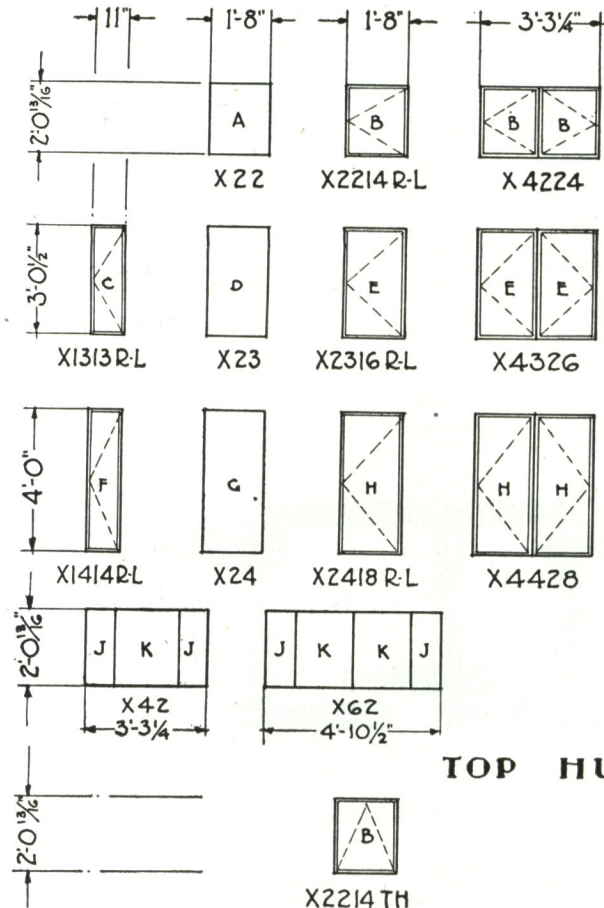
STANWIN CASEMENTS

STANDARD TYPES & SIZES WITH STEEL MUNTINS



STANWIN CASEMENTS

STANDARD TYPES & SIZES FOR LEADED GLASS



GLASS SIZES

FOR OUT SWINGING
SASH ON PAGE 54

A = $9\frac{1}{16} \times 11\frac{3}{8}$
 B = $8\frac{1}{16} \times 10\frac{3}{16}$
 C = $8\frac{3}{16} \times 10\frac{1}{16}$
 D = $8\frac{3}{16} \times 11\frac{3}{8}$
 E = $8\frac{1}{16} \times 11\frac{3}{8}$
 F = $9\frac{1}{16} \times 12\frac{1}{2}$
 G = $8\frac{1}{16} \times 10\frac{1}{2}$
 H = $9\frac{1}{4} \times 10\frac{1}{4}$
 J = $8\frac{3}{4} \times 11\frac{1}{2}$
 K = $8\frac{3}{4} \times 10\frac{3}{4}$
 L = $9\frac{3}{8} \times 12\frac{1}{2}$
 M = $9\frac{3}{8} \times 11\frac{3}{8}$
 N = $9\frac{1}{16} \times 12\frac{1}{4}$
 O = $9\frac{3}{8} \times 12\frac{1}{4}$

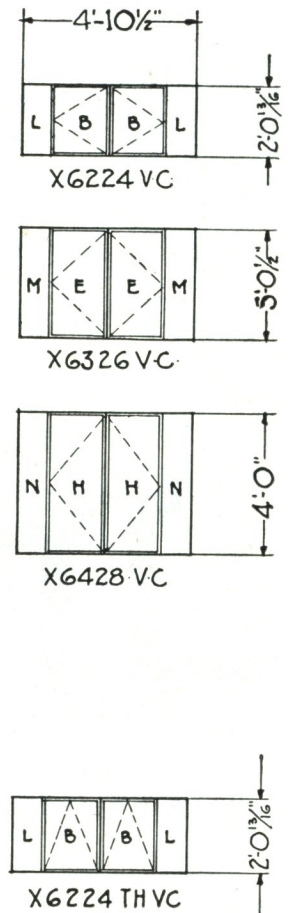
FOR LEADED GLASS
UPPER HALF PAGE 55

A = $18\frac{1}{16} \times 23\frac{1}{8}$
 B = $17\frac{1}{16} \times 22$
 C = $8\frac{3}{16} \times 33\frac{1}{16}$
 D = $18\frac{5}{16} \times 34\frac{3}{16}$
 E = $17\frac{3}{16} \times 33\frac{1}{16}$
 F = $8\frac{3}{16} \times 45\frac{1}{16}$
 G = $18\frac{1}{16} \times 46\frac{3}{16}$
 H = $17\frac{3}{16} \times 45\frac{1}{16}$
 J = $9\frac{1}{16} \times 23\frac{1}{8}$
 K = $18\frac{3}{4} \times 23\frac{1}{8}$
 L = $8\frac{3}{4} \times 23\frac{1}{8}$
 M = $8\frac{3}{4} \times 34\frac{3}{16}$
 N = $8\frac{3}{4} \times 46\frac{3}{16}$

FOR ALL SHAPED LIGHTS SEE TEMPLATE

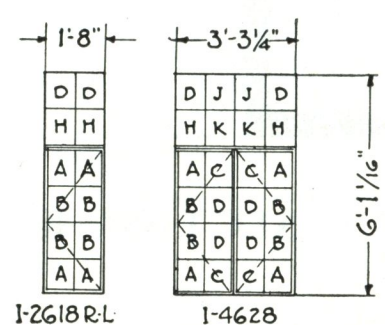
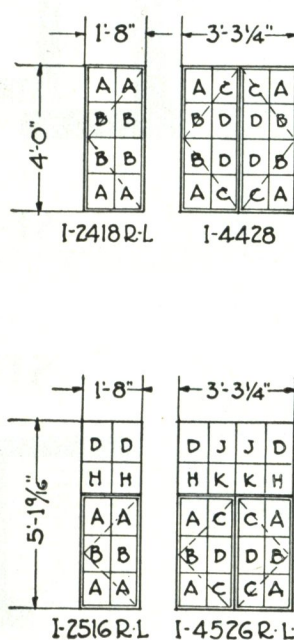
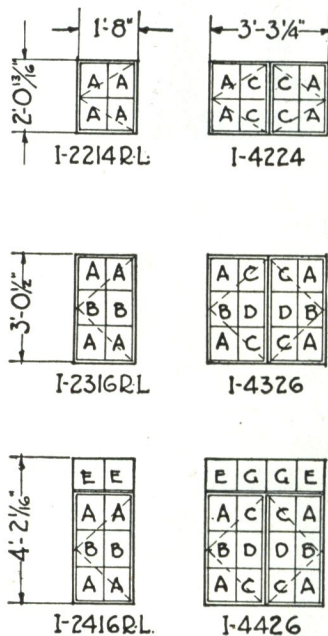
GLASS SIZES FOR IN-OPENING SASH
AS SHOWN ON LOWER HALF PAGE 55

A = $7\frac{1}{16} \times 10\frac{5}{16}$
 B = $7\frac{1}{16} \times 11\frac{3}{8}$
 C = $9\frac{1}{16} \times 10\frac{3}{16}$
 D = $9\frac{1}{16} \times 11\frac{3}{8}$
 E = $9\frac{1}{16} \times 12\frac{1}{2}$
 F = $9\frac{1}{16} \times 10\frac{5}{16}$
 G = $9\frac{3}{8} \times 12\frac{1}{4}$
 H = $9\frac{1}{16} \times 12\frac{1}{4}$
 J = $9\frac{3}{8} \times 11\frac{3}{8}$
 K = $9\frac{3}{8} \times 12\frac{1}{4}$

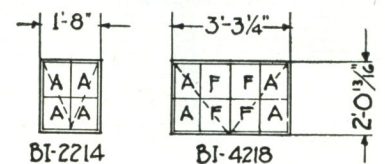


TOP HUNG TRANSOMS

IN-OPENING CASEMENTS IN STANDARD TYPES AND SIZES

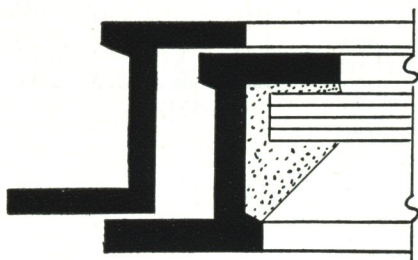
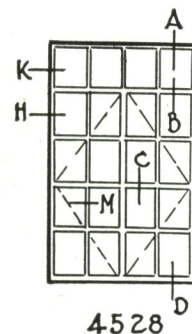
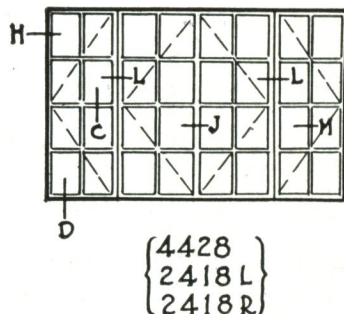
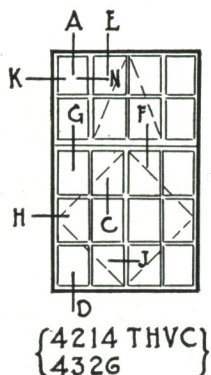


BOTTOM HUNG TRANSOMS

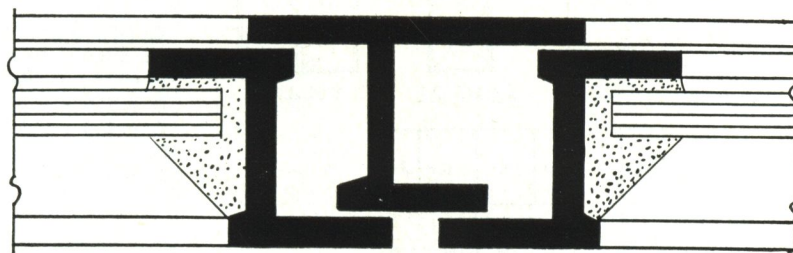


STANWIN CASEMENTS

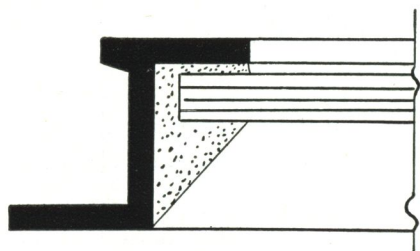
FULL SIZE DETAILS HORIZONTAL SECTIONS



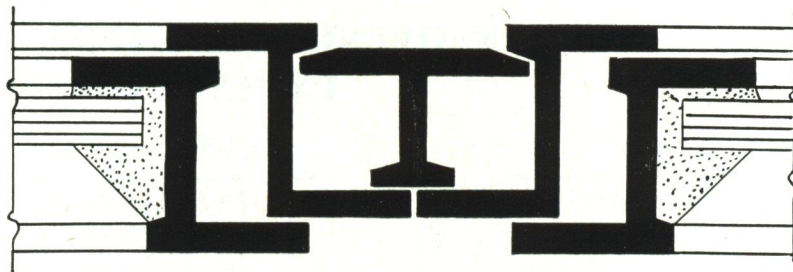
SECTION-H-



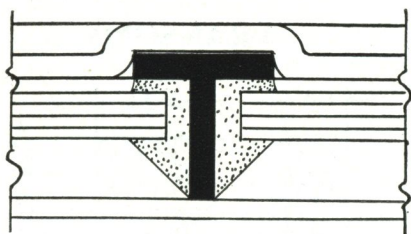
SECTION-J-



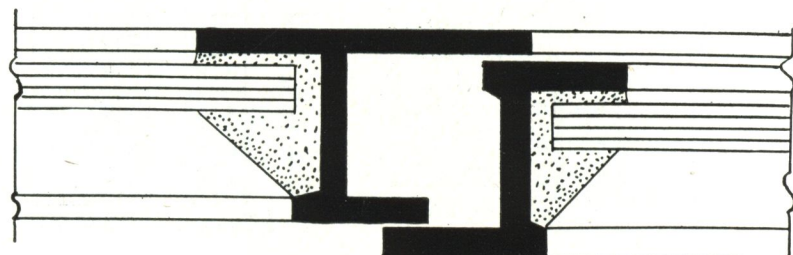
SECTION-K-



SECTION-L-



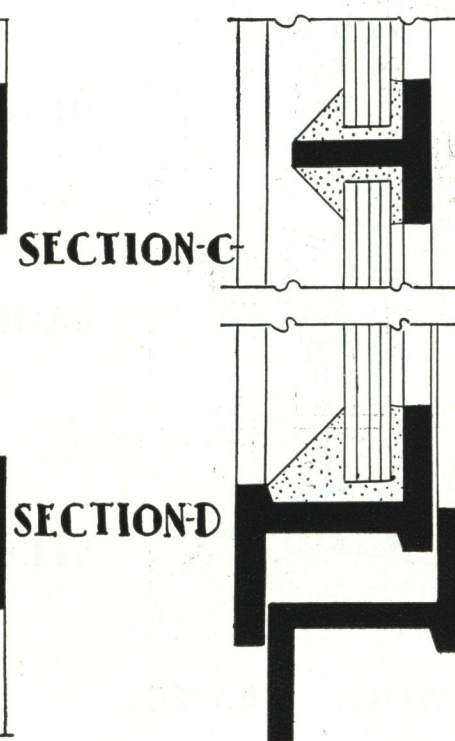
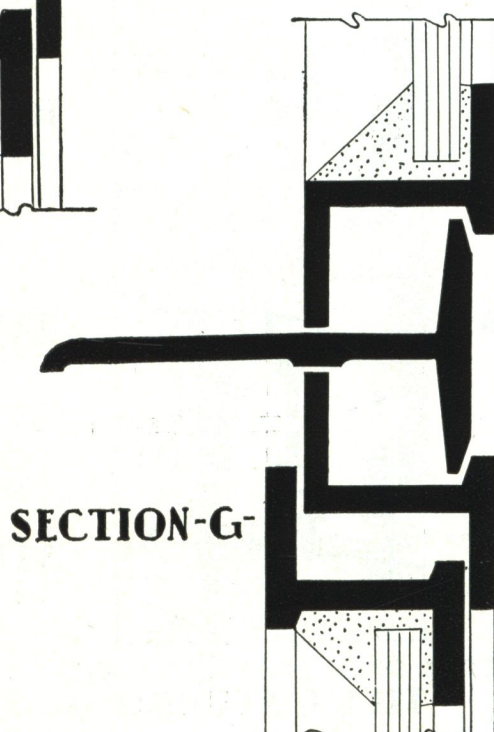
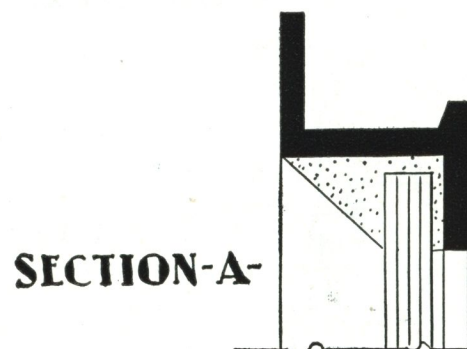
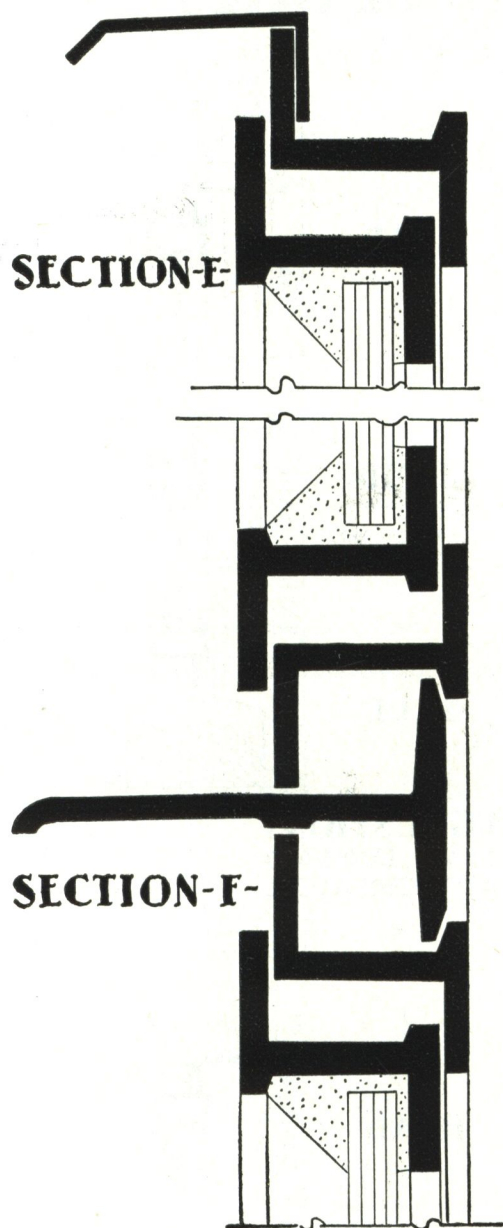
SECTION-M-



SECTION-N-

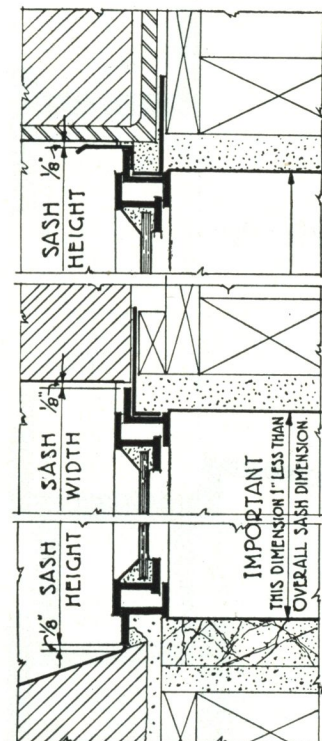
STANWIN CASEMENTS

FULL SIZE DETAILS VERTICAL SECTIONS



STANWIN CASEMENTS

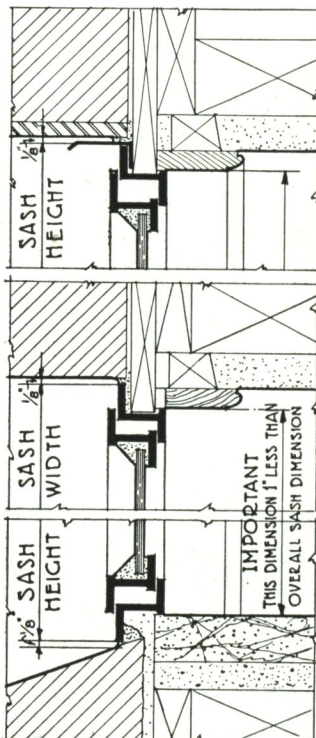
OUT-OPENING CASEMENT DETAILS



HEAD

JAMB

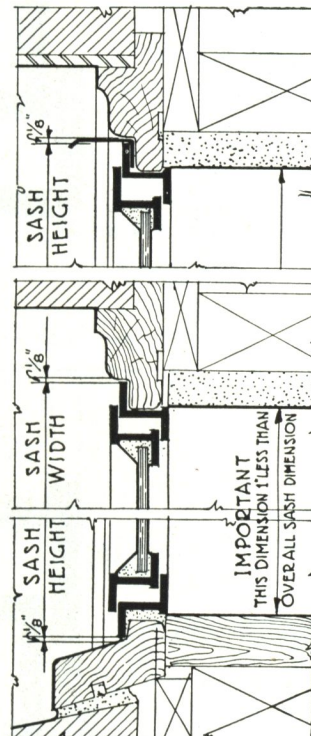
SILL



HEAD

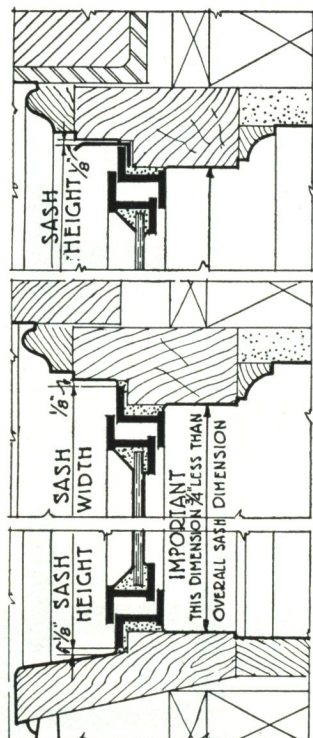
JAMB

SILL



BRICK WALL INSTALLATION SUGGESTIONS

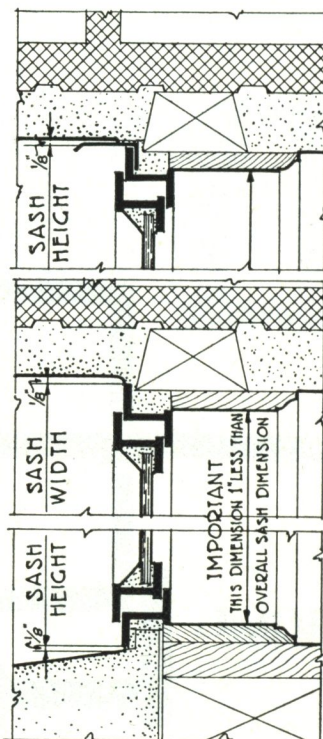
WHEN CRITTALL SCREENS ARE USED, INTERIOR HEADS, JAMBS AND SILLS MUST BE KEPT CLEAR OF SASH FRAME AS SHOWN ABOVE



HEAD

JAMB

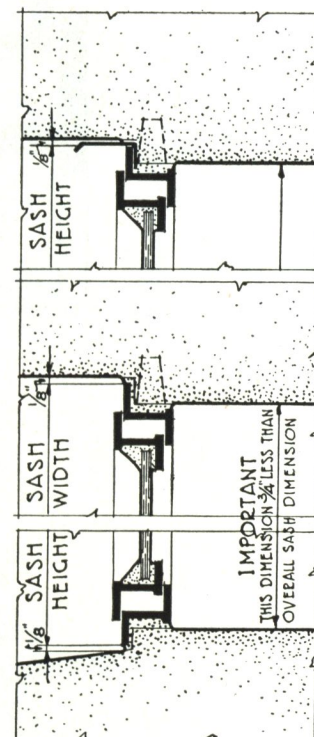
SILL



HEAD

JAMB

SILL



WOOD FRAME

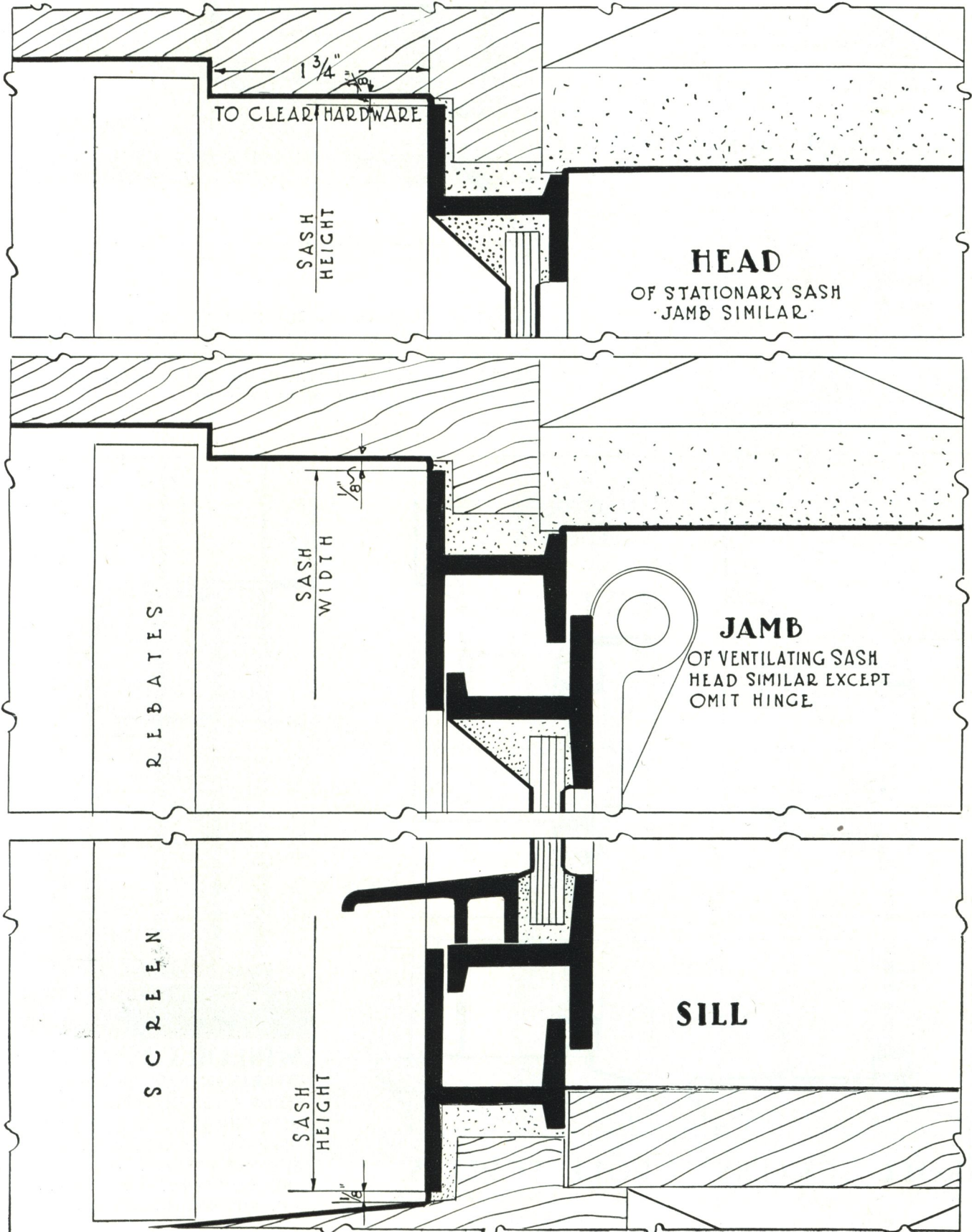
SCALE OF DETAILS 3" = 1'-0"

TILE & STUCCO

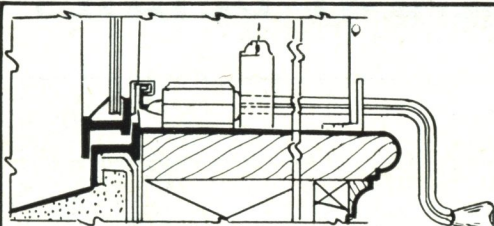
STONE DETAIL

STANWIN CASEMENTS

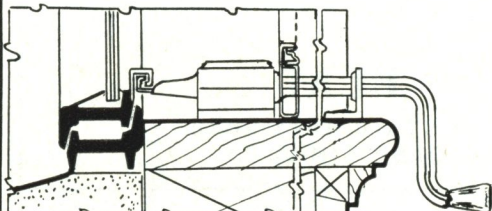
FULL SIZE IN-OPENING CASEMENT DETAILS



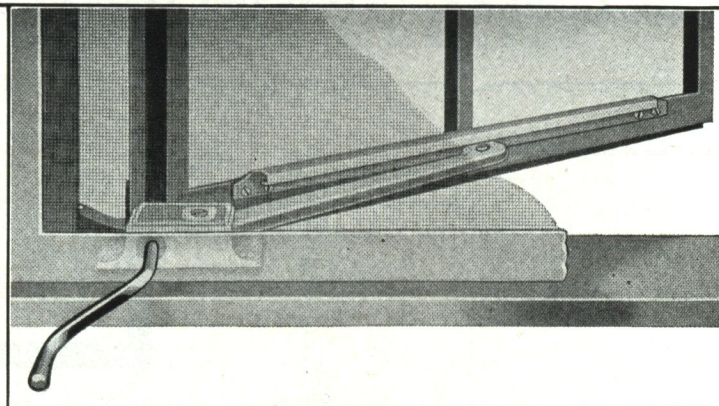
OPERATORS AND SCREENS



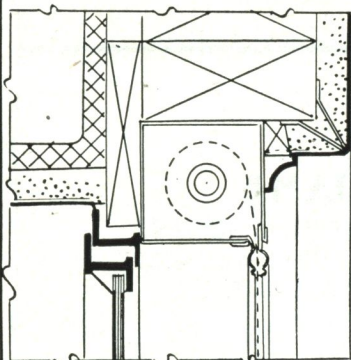
SILL DETAIL OF SERIES-25
OPERATOR APPLIED TO STANWIN CASEMENTS
SCALE 3"=1'-0"



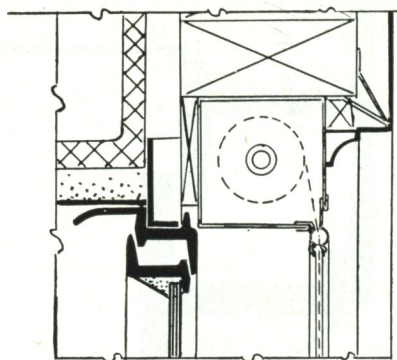
SILL DETAIL
OPERATOR APPLIED TO NORMAN
OR UNIVERSAL CASEMENTS



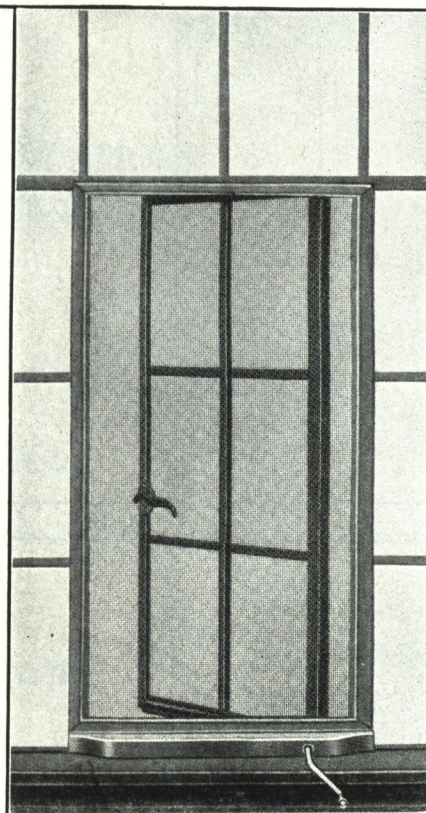
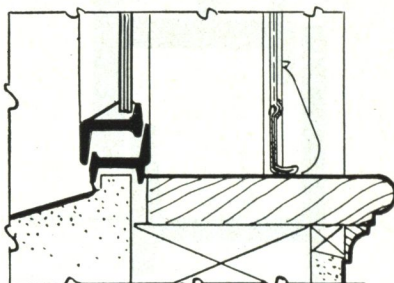
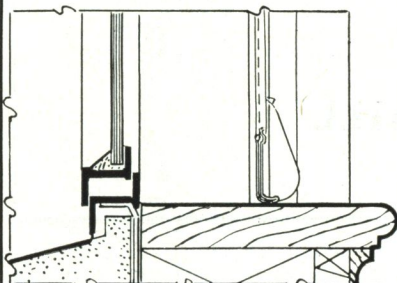
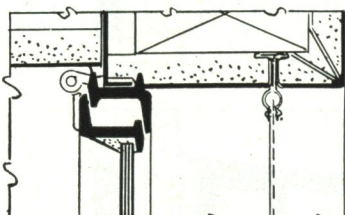
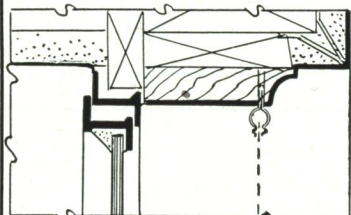
ILLUSTRATED ABOVE, AND DETAILED AT THE LEFT ARE WINDOR SERIES 25 OPERATORS. WE ARE PREPARED TO FURNISH ANY STANDARD OPERATOR WHENEVER PRACTICABLE. WHEN DETAILING OPERATORS CONSULT THE CASEMENT MANUFACTURER.



ROLL SCREENS
APPLIED TO STANWIN CASEMENTS
SCALE 3"=1'-0"



ROLL SCREENS
APPLIED TO NORMAN OR UNIVERSAL
CASEMENTS



WINDOR CASEMENT
OPERATOR AND SCREEN UNIT.
WHEN A FLUSH TYPE SCREEN
WITH THROUGH THE SCREEN
OPERATOR IS DESIRED WE
ARE PREPARED TO FURNISH
THIS COMBINATION ON STAN-
WIN AND NORMAN CASEMENTS

CRITTALL SCREENS

FOR NORMAN AND STANWIN CASEMENTS

CRITTALL Screens for Norman and Stanwin Casements are simple and sturdy in construction and design. A screen unit consists of a lower vertical sliding screen and an upper fixed screen mounted in a steel frame which is attached directly to the window on the inside. The screen itself is designed and built as a unit and is furnished complete by Crittall.

The casements have four steel anchor buttons on which the screen frame is attached. All casement hardware remains standard — no novel devices are used. The screen panels are of antique bronze cloth, 18-mesh.

Compactly designed, the new Crittall Screens fit snugly and lie flat against the window, occupying a minimum amount of space. It takes but a moment to remove the screen from the casement or to apply it again, and this is done without tools and almost without effort.

Screens are available for all standard types of side hinged out-opening Norman and Stanwin Casements.



*Crittall Screens are easy to put on and remove
—no tools of any sort are required*



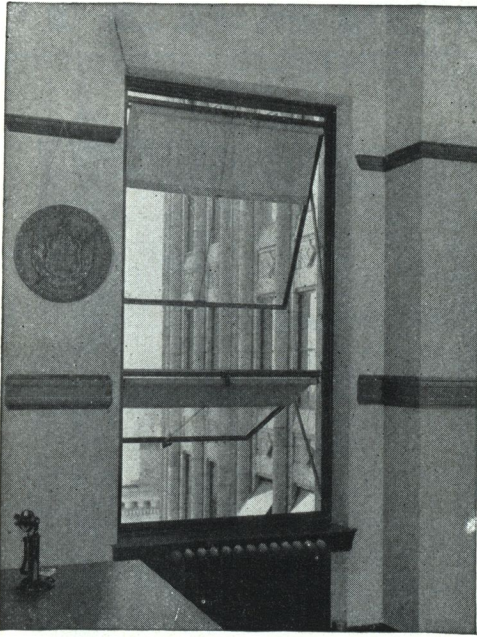
Screens may be operated with the tips of the fingers. They stay in place when raised



Free access to open or close the casement—or to operate awnings—is readily permitted

REVERSIBLE WINDOWS

CROSS SECTION



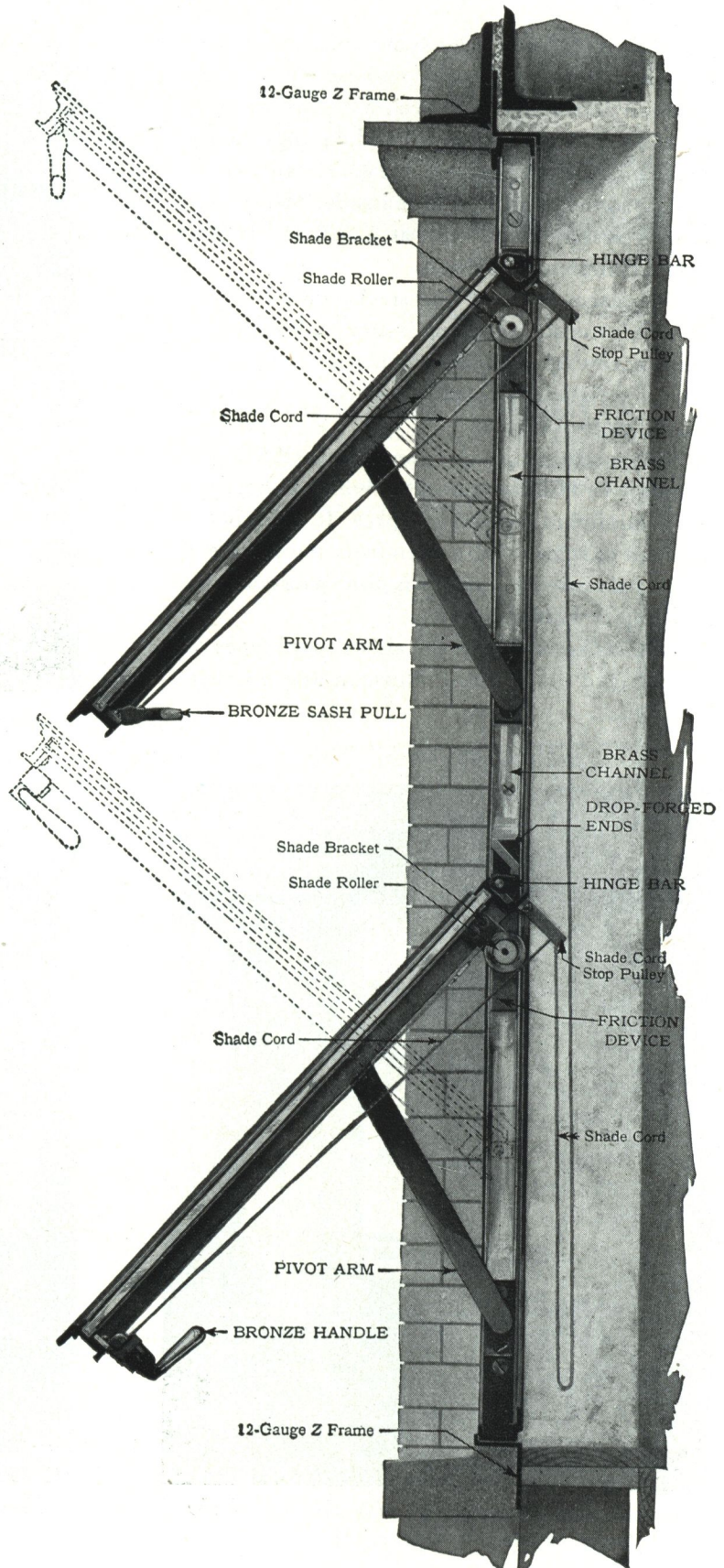
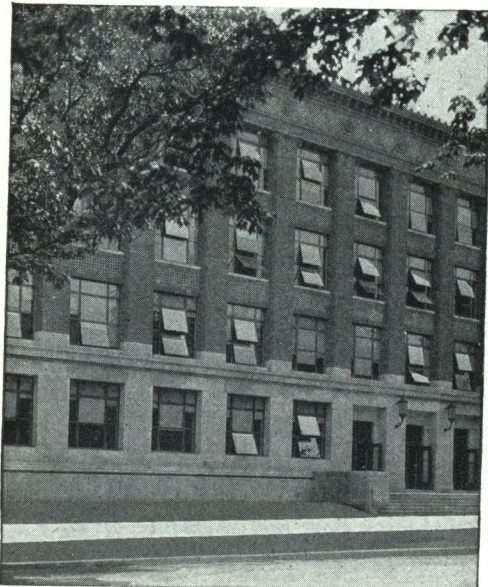
*Jefferson Standard Building, Greensboro,
North Carolina, Charles C. Hartmann,
Architect*

For work of more than usual distinction where a window of the projected type is contemplated, Crittall Reversible Windows will exactly fit the architect's needs. Rugged construction, simplicity of operation, and perfection of detail characterize these windows.

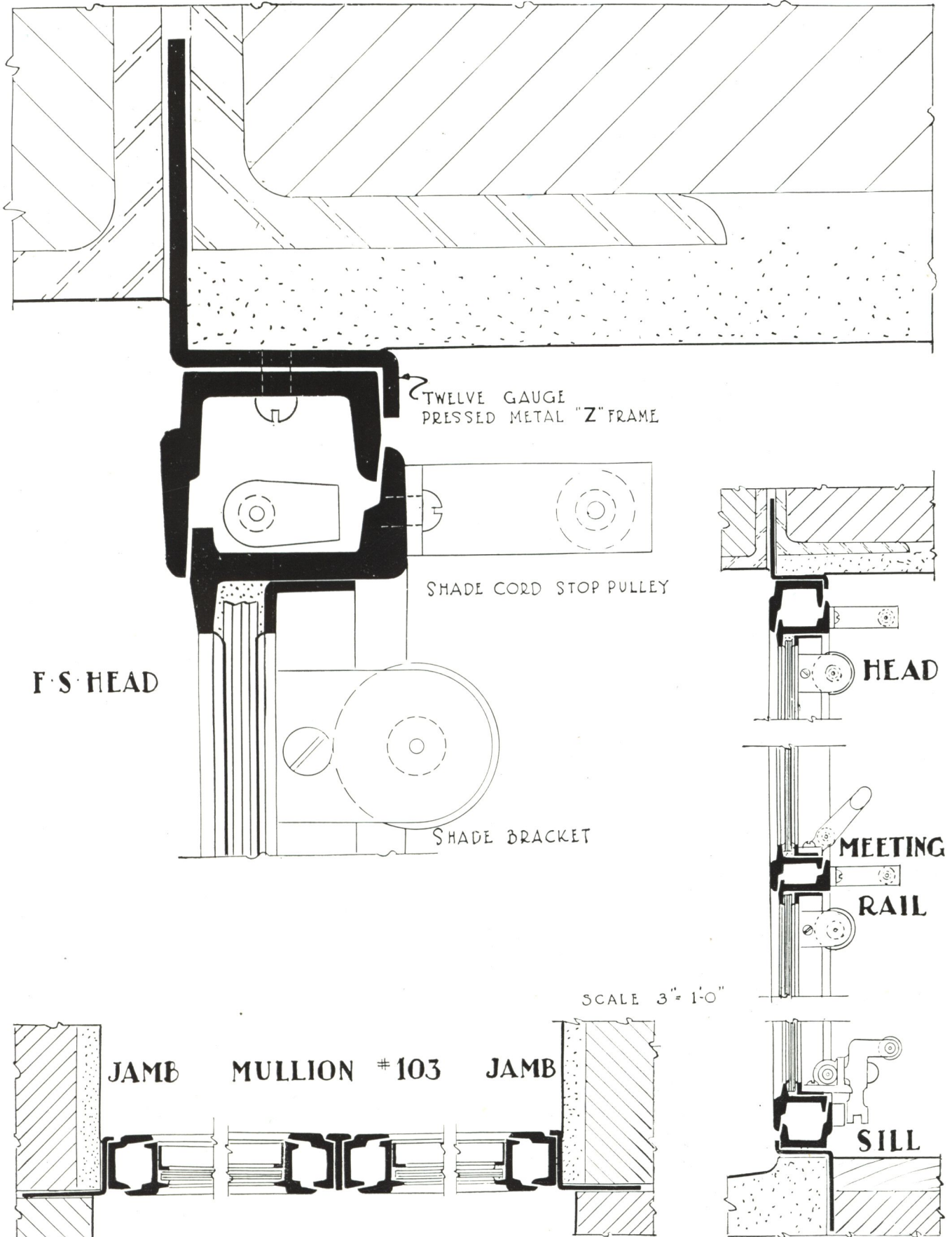
Twelve-gauge pressed metal Z frames are detailed but these windows may be set into cast iron or pressed metal frames of different contour similar to Universal Casements.

They are supplied with Underwriters Labels when required.

*Engineering Building, University of Michigan,
Ann Arbor, Michigan, Smith, Hinchman & Grylls,
Architects*



REVERSIBLE WINDOWS



PRODUCTS OF
CRITTALL

UNIVERSAL CASEMENTS

Custom built, of solid steel or bronze, to meet the architects' sizes, designs, and most exacting specifications.

NORMAN CASEMENTS

An economical, heavy standardized case-ment of excellent quality for better class projects.

STANWIN

A standard lig stocked in wareh distribution.

REVERSIBL

Heavy, custom-bu projected type, fo distinction and ch

CRIT
CASEMENT
DETROIT,

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Robert Vail Cole Jr, AIA
1962 – 2011

PRODUCTS OF
CRITTALL

UNIVERSAL CASEMENTS

Custom built, of solid steel or bronze, to meet the architects' sizes, designs, and most exacting specifications.

NORMAN CASEMENTS

An economical, heavy standardized casement of excellent quality for better class projects.

STANWIN CASEMENTS

A standard lightweight casement stocked in warehouses for convenient distribution.

REVERSIBLE WINDOWS

Heavy, custom-built windows of the projected type, for work of unusual distinction and character.

CRITTALL
CASEMENT WINDOW CO.
DETROIT, MICHIGAN.